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Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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SALT MUCK.

AFTER all that has been said and written on the value of this excellent fertilizer, it is not only astonishing but highly mortifying to us, every time we find ourselves in the vicinity of the extensive salt marshes of this country, to see how few farmers avail themselves of the inestimable treasures which surround them. They will travel great distances, and lay out large sums of money for lime, ashes, marl, city manures, fish, poudrette, guano, &c., when they already possess a combination of many of the elements of these substances in their own neighborhood, in an almost unlimited quantity. Furthermore, it has the good quality of being beneficial where applied, even in the driest weather. For this reason alone, then, it should be used, when convenient, in preference to any other fertilizer, especially on light soils.

Many farmers, in the vicinity of the sea shore, object to the use of salt-water muck, for the reason that their land is already overdosed with saline substances. In this belief, we think they are generally mistaken; and when they are not, it is easy to mix the muck into a compost heap, with city manure, or vegetable substances of any kind, and then apply it.

In making use of salt-marsh muck, it is a great error, we think, to handle it much. This adds considerably to the expense, and nine times out of ten it might be saved. As a general rule, we should dig and cart it on the land, in autumn, spread it broadcast on the surface, let it lie till the following spring, and then plow in. It is thus subject to the action of frost all winter, becomes finely pulverized, and freely incorporates itself with the soil. It may also be carted into barnyards, in the fall of the year, and lie all winter, and then be mixed up in the spring; or it can be mixed into a

compost heap with quicklime and other materials, at any season of the year.

Immense crops of cabbages are grown in this neighborhood by mixing one part of street manure with two parts of sea muck, where it is considered one of the best fertilizers that can be applied to this crop. It gives the cabbages a very even and good growth, and a better flavor than when produced by more putrescent manures.

SOCIAL MEETING OF FARMERS AND GARDENERS.

ON the first Monday of September, a meeting of farmers, gardeners, and others was held at our rooms, 159 Water street, from the proceedings of which we extract the following:—

Good Effects of Marl and Guano in Growing Wheat.—Mr. William Spader, of Marlborough, New Jersey, stated that he had mixed green-sand marl with guano in manuring his wheat fields, the year past, and that he obtained from 25 to 30 bushels of wheat per acre.

Astoria Pond Muck.—Mr. A. P. Cumings, of Williamsburgh, Long Island, stated that he had made use of fresh-water muck, taken from a pond, at Astoria, as a garden mould, and that it answered a most excellent purpose. This muck, it is said, is in general demand among gardeners and nurserymen about New York.

Mammoth Tomatos.—Mr. Cumings presented several tomatos of extraordinary size, one of which weighed 1½ lbs. They were grown in his garden at Williamsburgh, and cultivated the usual way.

Superior Cucumber.—Mr. E. K. Delafield, of Staten Island, presented a fine specimen of cucumber, weighing 2 lbs, 2 oz., of a white color, free from prickles, tender, of a solid consistency, excellent taste, but never bitter.

Grafting the Pear on Quince Stocks.—Mr. Cummings approved of grafting the French pear and other kinds of medium or dwarf growth, on quince stocks; but the famous Bartlett pear, as well as some other varieties of larger growth, he thinks will not succeed well unless they are grafted on pear stocks.

Fruit.—Several gentlemen presented fine specimens of the fruits of the season, among which were superior varieties of French pears, and the pound sweeting, or Somerset harvest apple, the latter literally weighing a pound.

EIGHTH ANNUAL SHOW AND FAIR

OF THE

New-York State Agricultural Society.

THIS was held at Buffalo on the 5th, 6th, and 7th of September. In the number of visitors, the interest excited, and the number, variety and quality of the specimens exhibited, this show has far exceeded any that has preceded it. This is conclusively shown by the fact that \$6,300 were received on the ground against \$4,034 last year, at Saratoga, and \$4,333, at Auburn, the year previous. It was estimated that nearly 50,000 persons were on the grounds at one time, and that over 70,000 visited them during the exhibition. The result of this show has disappointed two sets of croakers; the one predicting from last year's results, that the society was on its last legs, and would hardly survive the present year, and the other, that, although it might get along very well if the show were held in the eastern, or central part of the state, yet, that Buffalo was decidedly too far west for any successful assemblage of intelligent farmers.

It is one of the best features in the rules of the society, that its annual meetings are of a locomotive character, and that new points are constantly selected for them. If continuously held in any one place, it would beget apathy and extortion; while, as at present arranged, the rivalry for securing it, ensures a spirit of accommodation on the part of the town where it is to be held, highly conducive to the convenience of the society and the comfort of the visitors.

It also awakens a spirit of emulation on the part of the farmers in whose neighborhoods it is held, which is constantly striving to excel the previous exhibitions. We do not doubt, that while the number attending from other states, and especially from Pennsylvania, Ohio, Michigan, and Canada, much exceeded that upon any former occasion, there were more farmers and citizens of our own state present than ever before. The truth is, Buffalo is eminently a concentrating point, and speaking in the most enlarged and comprehensive sense, it is located in one of the best agricultural regions on the face of the globe; and the facilities for bringing people together at that place, cannot be exceeded, if equalled, by any inland town in the Union. The inhabitants in that wide-spread region too, are generally men of enterprise and intelligence—men who feel their responsibility in setting a proper example as farmers, and who at all times manifest a proper spirit in whatever relates to their profession, or duty. They are, besides, not

tied down to ancient usages and systems, as in some of the older states, or in eastern portions of our own. They are not only willing to learn, but are ambitious of improving every opportunity of doing so. To this spirit, and this character, we think, must be attributed the unusually large and animated spectacle presented at Buffalo, in September.

Pomology.—The show was preceded by a Pomological Convention, held at the same place, commencing on the first, and continuing to the fourth ult., inclusive. This, we believe, is the first general meeting of the kind, ever held in the United States; and if we can judge of the future by the spirit evinced in this, we must infer that pomology is destined to assume a high stand hereafter among the objects of attention in this country. About 300 delegates were present from half the different states of the Union. The number of specimens presented was immense. The discussion on the merits of the various kinds was scrutinizing, and generally just. We deem this a valuable beginning for the lovers of fine fruits, and one eminently calculated to assign a just place for the varied kinds cultivated in this country. The fact was here fully corroborated which had previously been found in isolated instances, that fruits change in character and excellence from a change in locality, soil, climate, and cultivation.

We trust the recent attention to this important branch of horticulture may result in giving an impetus to the enlargement and perfecting of our nurseries and orchards, which they have long needed. Nothing contributes more to our enjoyment, nourishment, and health, in the shape of food, than abundance of choice, ripe, seasonable fruit. It may be used without stint by old, young, and middle aged; cooked, raw, or preserved, in almost any form, or manner. It must be a vitiated system that it will injure, and a sadly-vitiated one that it will not cure.

The Show Ground.—This was beautifully located on the elevated lands that so gracefully sweep around the northern and western skirts of the city of Buffalo. Its entire length was nearly half a mile, with a width varying by rectangular additions from about 300 feet at its entrance, to 800 feet in the rear. The front was a gentle slope, and was occupied by two buildings, containing the treasurer's and secretary's office, nearest the street; by the mechanics' hall, the dairy, grain and seed hall, and the manufacturers' and miscellaneous hall; then followed the great horticultural tent, 120 by 80 feet on the ground; next the horse parade, over 200 feet in diameter; then the society's tent, 120 by 90 feet; near which were numerous minor buildings for committees, refreshments, and various subordinate purposes.

Four or five hundred feet in length of commodious, well-roofed sheds, made perfectly tight, with latticed fronts, was appropriated to the feathered tribes and rabbits; nor was this found adequate to contain the candidates for the honors and emoluments of the society. Near a thousand feet of pens were filled with woolled and bristled quadrupeds while acres of a well-wooded lawn gave shade and retirement to the varied families of the horned stock. Besides their course for examination, exer-

cise and display, the horses occupied a large portion of the grounds, not otherwise appropriated. Farming implements of every description filled up the remaining space left vacant by the buildings near the entrance.

The whole area of 16 acres, during a considerable part of the time it was opened for exhibition, was filled to overflowing with the thronging masses, and all seemed more than gratified. They were delighted at the display of agricultural and mechanical ingenuity, and prouder of their kinsfolks and their countrymen, and humanity; and that there was the spirit, and intelligence, and industry, to make so rich an exhibition of their Creator's handiwork, and their own. We may add, and that, too, with sincere gratification, that this feeling was equally prevalent in their intercourse with the citizens of the place; and when private houses were crammed, to repletion and hospitality could extend its right no further, the public houses, steam and canal boats, and even the vessels in the harbor, absorbed their full quotas of guests, neither did they make up in charges nor exactions, what they may have omitted in fare and accommodations.

For the first time, we believe, in the history of the society, every animal remaining on the ground was plentifully supplied with grain, hay, and freshly-cut grass and clover, with an abundance of water; all of which was gratuitously provided by the citizens of Buffalo, and with the utmost convenience to the keepers. We observed some confusion and injury resulting from the insecure fastening of the bulls, four of which, got loose at different times, and gored each other like so many windy politicians in an election encounter. They were at last secured, with little damage, except to each other. We recommend that the society, hereafter, allow no bull to enter the show ground, unless secured by a sufficiently strong chain, passing around the horns or neck of the animal, and fastened with a strong padlock. This would ensure absolute safety whenever the animal is not under the eye of the keeper.

The weather, throughout, was delightful. It had previously been hot and dusty, but a soaking shower, on the first morning of the exhibition, effectually laid the dust and cooled the atmosphere, during its continuance.

Tuesday, the 5th, was devoted to the examination of the different specimens of animals, implements, &c. &c., offered for exhibition, by the several committees. For the purpose of enabling them to perform their duties with deliberation and intelligence, spectators were excluded till Wednesday, but we noticed the committees almost as busy the following day, in settling the comparative merits of such animals as they could not fully decide upon previously; indeed, it was not before half of the day had elapsed, that some of the most arduous examinations were completed.

An extensive public sale of improved cattle and sheep commenced on Thursday, at 10 A. M., which with private sales, were continued during the remainder of this, and the following day. The auction sales were ruinously low, and the animals were withdrawn before the list was half disposed of. But many were subsequently sold at prices satisfactory, both to buyer and seller. Some choice

Short-Horns, from Cincinnati, Ohio, and Westchester, N. Y., were on the ground for sale, and we were pleased to see the former going to Canada, or remaining in this state, while our own went on 500 miles to the rich feeding grounds of the west, to improve the future beef for packing and exportation. Our Canada friends bought largely, evincing a proper spirit of emulation in the improvement of their breeds at home. Many were bought for the western states, and some changed hands among our own citizens.

An able address, from the Hon. John C. Spencer, on the protection of our home industry, thereby most effectually remunerating the industry of our agricultural population, was delivered under the society's large tent, on Thursday, at 1 P. M., and was listened to, for an hour and a half, with marked respect and admiration. An able lecture was delivered by Professor J. P. Norton, of Yale College; and numerous speeches, by distinguished individuals from various parts of the country, were made at several times and places, during the continuation of the show; and we much doubt if the people in attendance were not as much benefited by what they heard, as from what they saw.

We deem the speeches and sale of stock on these occasions, as not less directly beneficial in their tendencies and results, than the exhibitions. If what they see, instructs their judgment and taste, what they hear, no less informs their understanding; and the fine specimens of implements, seeds, and cattle, they thus procure by a comparatively trifling outlay of capital, enable them to carry into successful practice, the newly-acquired views, or knowledge, they have gained.

The dinner came off at the American Hotel, on Thursday, at 9 P. M., and was fully attended by citizens, members, and distinguished strangers from abroad, who did ample justice to the tempting and abundant viands, its accomplished host so well knew how to provide. We noticed among others, on the right of the President, Hon. J. C. Spencer, Colonel Fergusson, C. W., General Riley, Lord Stanley, Colonel Kirby; on his left, General Worth, Hon. Edmund Burke, Commissioner of Patents, &c., while every part of the room had its representative from some of the professions, either at home or abroad, who had come up to the great festival, impelled by his zeal and interest in the farmer's cause.

The Trial of Plows.—In this, as usual, there was a most unsatisfactory performance. We think the premiums offered, and manner of testing the comparative draft of plows, unworthy the society. Beyond any other, and almost beyond all others of the farmer's implements united, is the importance of the plow; yet we see a large number of \$20 and \$25 premiums for bulls and cows, which is none too much to be sure, and the highest for the best of this most invaluable implement, is but \$10. It is mockery to offer such a premium, and worse than mockery to profess to verify the relative merits of the plow, in the manner proposed. The truth is, it needs a highly intelligent board of mechanics and agriculturists combined, and with all proper leisure and means to arrive at this decision correctly. The hurly burly of a fair is equally suited

to calculating an eclipse, or arranging a table of logarithms, as to guess with exactitude the draft performance, and precise merits of a plow. Some general estimate of comparative value can be made, as we guess a hawk from an eagle in the distance; but nice accurate distinction is out of the question, and no manufacturers having a reputation to lose, will deliberately subject their specimens to such haphazard trials. The premium for the best plow, ought to be \$50, at least, and if it merits it, \$500, and the trial should be an affair by itself, say, two or three days before, or at the close of the fair, when time enough should be given to the subject, and under such advantages for arriving at just conclusions, as will give absolute certainty to them, and command the confidence of the public.

Horses.—Of these, there was a better show than at any previous time. Several of each of the different classes of animals were on the ground, including the blood, the Cleveland bay, the Norman, the draught horse, and the horse of all work; and there were specimens of the extremes of horse flesh in a dappled Clydesdale, upwards of 18 hands high, and a pen of five Shetland ponies, about the size of a Cotswold or Lincolnshire buck. There were also numerous fine geldings, single and matched. The animals were generally choice of their kind, and highly creditable to the state. No jacks nor jennies, and but three mules were shown.

Cattle.—The Short-Horns were there in great force and excellence. We have never seen so large a number together, though many were there for sale, rather than exhibition.

The Devons were also more numerous by far, than at any previous time. We are glad to see public attention awakened to this meritorious breed, and that they are rapidly spreading themselves over the country in every direction.

The Herefords were on the ground, but not in large numbers. Of the 19 animals in this class, which received premiums, Mr. Sotham, took over one half, showing conclusively, that however meritorious are the animals he has heretofore parted with, his hand is still full of trumps.

Of Ayrshires, there were but few offered, but most of these were excellent. Several fine ones were brought to the ground, by Mr. Dougall, and others, from Canada.

Native cattle were there in considerable numbers, many of which, afforded conclusive evidence of good breeding and proper management.

The fat cattle were superior, as a lot, to any ever before shown together, and they evinced an increasing capacity, both in the animals and feeders, for loading the carcass to an uncomfortable obesity.

As specimens of what were offered, we append dimensions and weights of a few of them.

A single fat ox, over four years old, 1st premium, shown by Edward Munson, of Sennett. Girth, 9 feet. Length, 7 feet 8 inches. Weight, 3,100 lbs.

One pair of fat oxen, over four years old, 1st premium, exhibited by J. and F. A. Alberger, of Buffalo. Girth of Empire State, 9 feet 3½ inches, Queen City, 9 feet. Live weight, 5,784 lbs.

Next largest pair of fat oxen, 2d premium, shown by Lyman Brainard, of Attica. Weight, 4,800 lbs.

Third, and best pair of fat oxen, 3d premium, by I. Doty, of Attica. Weight, 4,670 lbs.

A fat cow, over 4 years old, 1st premium, by Robert Hadfield, of Sheldon. Live weight, 1,742 lbs.

Another fat cow, over 4 years old, 2d premium, by Robert Fowler, of Batavia. Weight, 2,030 lbs.

Also a fat cow, over 4 years old, 3d premium, by Allen Ayrault, of Geneseo. Live weight, 1,652 lbs.

Sheep.—Of these, the show was much beyond our expectation. Large numbers of them were offered for prizes, and a still larger number for sale. They embraced a good many of the best Saxons, and the best Merinos, including some from the most recent importations. The long and middle wools, were all embraced in the Cotswold and Southdowns, both of which breeds were worthily represented in quantity and quality.

Swine.—These were not numerous, but there were many good animals, and of a considerable diversity of breeds. The Berkshires seemed rather to predominate.

Poultry.—This department was never in higher repute than on this occasion, having monopolized a large proportion of the grounds and the attention of the spectators, a distinction to which their numbers, variety, and merits fully entitled them.

Dairy Products.—These were particularly meritorious. Butter was exhibited in much less quantity than at the eastern shows; but in cheese, the specimens were far beyond what was ever seen together out of Erie county, which is undoubtedly one of the first in the world for its cheese.

Farm Implements.—These were numerous and good, equal, if not superior, to any ever shown. Besides those offered from our own state, there were several from abroad, and among others, a large assortment of the celebrated eagle, and other plows and farming implements, from the extensive manufactory of Messrs. Ruggles, Nourse, and Mason, of Massachusetts.

Other manufactured articles, including the handiworks of the ladies, were very extensive in quantity, and gave a high idea of the perfection of manufactures and the useful arts, in western New York.

Several samples of unbranched wheat, with the bran as removed by a cast-iron machine, were exhibited by L. A. Spaulding, of Lockport. This is said to be a great improvement in making flour, and is well worthy the attention of millers, and particularly as it is alleged that a machine that will unbran 100 bushels of wheat per hour, costs complete but \$100.

We were glad to perceive several specimens of flour and meal prepared so as to resist injury when exposed to hot climates. These improvements, if fully carried out, will extend the markets, and augment the profits of our bread stuffs to a large amount.

Floral Hall.—This was never before the recipient of more abundant and appropriate offerings than were here made of the flowers, fruits, and vegetables, by the devoted votaries of the tripple Goddesses, Flora, Ceres, and Pomona. But we have to acknowledge, which we do with the highest gratification, that for the former we were largely indebted to the zeal and devotion of our co-workers in adjoining states and Canada. We have thus barely glanced at some of the leading features of this interesting anniversary. The forthcoming volume of the society will hardly do justice to it in detail.

PROGRAMME OF THE FAIR OF THE AMERICAN INSTITUTE.

EXHIBITORS of specimens for premiums, excepting cattle and other live stock, agricultural and horticultural productions, &c., are required to bring them to Castle Garden, and obtain a certificate from the clerk of the Fair, on Friday or Saturday, the 29th and 30th days of September, previous to the opening of the exhibition.

Monday, Oct. 2.—Will be appropriated for the arrangement of the contributions. Vegetables, fruits, and flowers, for the horticultural room, should be brought this day, before 12 o'clock.

Tuesday, Oct. 3.—The exhibition will open to the public at 9 o'clock A. M., and continue until 10 P. M., through the fair. The opening address will be delivered this evening, at 7½ o'clock, in the garden.

Wednesday, Oct. 4.—The steam engine, with moving machinery, will be in operation, and continue during the exhibition.

Thursday, Oct. 5.—Plowing and spading matches, at White Plains, West Chester county, N. Y., in conjunction with the Society of Agriculture and Horticulture of West Chester County.

Saturday, Oct. 7.—Fireworks this evening at 9 o'clock.

Monday, Oct. 9.—Cattle and other live stock to be exhibited on Wednesday, must be entered on the books this day, and pedigrees delivered to the clerk at the committee room, at the Washington Drove-Yard Hotel, in 44th street, between 4th and 5th Avenues.

If previously sent to T. B. Wakeman, the Corresponding Secretary of the Institute, they will be attended to.

Show of choice roses and dahlias, this day at 12 o'clock, at Castle Garden, for special premiums.

Tuesday, Oct. 10.—The Convention of Fruit Growers will meet this morning, at 11 o'clock, A. M., at Judson's Hotel, 61 Broadway.

Wednesday, Oct. 11.—The Cattle Show opens at 9 o'clock, A. M., at the spacious premises known as the Washington Drove Yard, in 44th street, between 4th and 5th Avenues, when all the animals must be on the ground.

Thursday, Oct. 12.—Second and last day of the cattle show. Anniversary address at the Broadway Tabernacle at 7½ o'clock, P. M. Music by an accomplished choir, under the direction of Mr. George Andrews.

Saturday, Oct. 14.—Pyrotechnic exhibition, in competition for premium, at 9 o'clock, P. M. Each exhibitor will be required to fire three pieces. Entries to be made on the books before 12 o'clock.

COMMON SALT POISONOUS TO PLANTS.

MR. W. R. RANDALL recently read a paper on this subject at a meeting of the British Association at Swansea, as a practical caution in the cultivation of plants. Three or four plants having been shown the author, nearly or quite dead, and having searched in vain for any strong poison in the soil, and in the plants themselves, he inquired more minutely into the circumstances of the case, and found that these were only specimens of many hundreds of plants, both in the open air, and in the green houses (but all in pots), which all exhibited, in a greater or less

degree, the same characteristics. The roots were completely rotten; the stems even, in young plants, assumed the appearance of old wood; the leaves became brown, first at the point, then around the edge, and afterwards all over, while the whole plant drooped and died. They included different varieties of the fir, cedar, geranium, fuchsia, rose, jasmin, and heath.

Finding that the whole were daily watered from one particular source, the conclusion was at once suggested, that the cause of the evil must reside in the water thus used, which was then examined, and each 20 fluid ounces yielded the following constituents:—Carbonate of lime, 0.6, sulphate of lime, 0.462, chloride of calcium, 0.2, chloride of magnesium, 1.252, chloride of sodium, 6.906.

The mould round the plants, and an infusion of the dead stems and leaves, also afforded abundant evidence of the presence of much chloride of sodium; and it was also discovered that the well had an accidental communication with the sea, and had been used in this state for some weeks, probably two or three months. Further experiments were made, and showed that water containing about 7 grains of salt, in each pint, is, in its continued use, an effectual poison for plants and the weaker forms of vegetation; and that when the soil is continually watered with a weak solution of salt, it gradually accumulates in it, until it becomes sufficiently contaminated to be unfit to support vegetable life.

In either case, an interesting subject of inquiry is suggested—What is the weakest solution of salt which can produce in any measure this poisonous effect? Or, in other words, at what degree of dilution does the danger cease? For salt is often a natural constituent of spring water, quite independent of any infiltration from the sea, as in this instance. Thus, the water of the Artesian well, Trafalgar Square, London, contains in each gallon about 20 grains; that at Coombe and Delafield's brewery, 12.7; that at Wolverton railway station, 6; one lately sunk at Southampton for supplying a manufactory, 40. Might it not then be justly asked, whether the subject of the suitability of water in general for the various purposes to which it is applied, is not worthy of a greater share of scientific attention than it has hitherto commanded?

FARMERS, READ THE AGRICULTURAL PAPERS.—

Not the older ones—they have no need of this *superfluity* of the nineteenth century; but the younger ones can thus learn something, which their seniors are too wise to do. Read the best agricultural papers and journals; one, two, or three, if you can get them. Sift the chaff from the wheat, the bran from the flour, and make good digestible bread of the last. The expense of taking these is nothing, comparatively. Look at your bills for extra horse trappings, cigars, tobacco, juleps, and nonsense of any kind, which you have both cash and leisure for, and you will find that you can take half a dozen of the best agricultural papers in the Union, with less than half the money you annually throw away in what is worse than useless.

It is necessary to avoid returning too soon to the cultivation of the same plant, or to analogous kinds of vegetation, in the same soil.—*Chaptal*.

AGRICULTURE OF THE CHINESE.—No. 10.

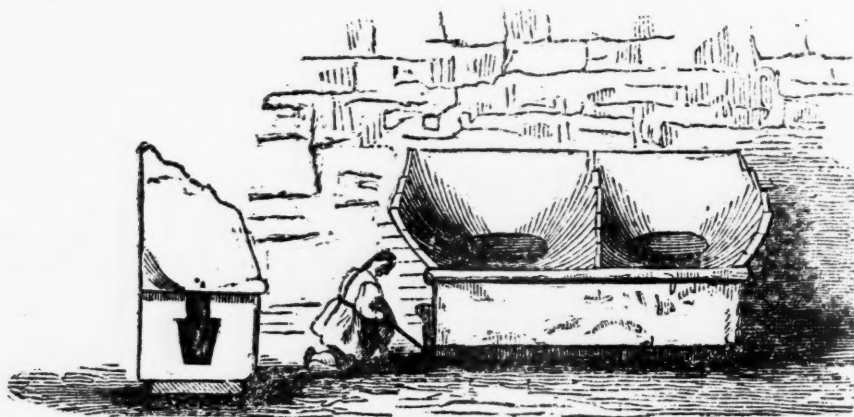
Mode of Gathering and Preparing Tea Leaves.—The mode of gathering and preparing the leaves of the tea plant is extremely simple. We have been so long accustomed to magnify and mystify everything relating to the Chinese, that, in all their arts and manufactures, we expect to find some peculiar and out-of-the-way practice, when the fact is, that many operations in China are more simple in their character than in most other parts of the world. To rightly understand the process of rolling and drying the leaves, it must be borne in mind that the grand object is to expel the moisture, and at the same time to retain, as much as possible, of the aromatic and other desirable secretions of the species. The system adopted to attain this end is as simple as it is efficacious.

In the harvest seasons, the natives are seen in little family groups on the side of every hill, when the weather is dry, engaged in gathering the tea leaves. They do not seem so particular, in this operation, but strip the leaves off rapidly and promiscuously, and throw them all into round baskets made for the purpose out of split bamboo, or rattan. In the beginning of May, when the principal gathering takes place, the young seed vessels are about as large as peas. These are also stripped off and dried with the leaves; it is these seed vessels, which we often see in our tea, and which have some slight resemblance to young capers. When a sufficient quantity of leaves is gathered, they are carried home to the cottage, or barn, where the operation of drying is performed.

The drying pans and furnaces in these places are very simply constructed. The pans, which are of iron, and are made as thin as possible, are round and shallow, and, in fact, are the same, or nearly

When the pans are first fixed, the brick work and chunam are smoothed off very neatly round their edges and carried up a little higher, particularly at the back of the pans, at the same time widening gradually. When complete, the whole has the appearance of a row of large high-backed basins, each being three or four times larger than the shallow iron pan which is placed at its bottom, immediately over the flue. When the fire is applied, the upper part of these basins, which is formed of chunam, gets heated as well as the iron pan, though in a less degree. The drying pans, thus formed, being low in front, and rising very gradually at the sides and back, the person, whose duty it is to attend to the drying of the leaves, can readily manage them, and scatter them about over the back of the basin. The accompanying sketch, fig. 81, which was made on the spot, will render this description more clear.

The leaves having been brought in from the hills are placed in the cottage, or drying house. It is now the duty of one individual to light the little fire at the mouth of the flue, and to regulate it as nicely as possible. The pans become hot very soon after the warm air has begun to circulate in the flue beneath them. A quantity of leaves, from a sieve, or basket, are now thrown into the pans, and turned over, shaken up, and kept in motion by men and women stationed there for this purpose. The leaves are immediately affected by the heat. They begin to crack, and become quite moist with the vapor, or sap, which they give out on the application of the heat. This part of the process lasts about five minutes, in which time the leaves lose their crispness, and become soft and pliable. They are then taken out of the pans and thrown upon a table, the upper part of which is made of split pieces



FURNACE AND DRYING PANS.—FIG. 81.

the same, as the natives have in general use for cooking their rice. A row of these are built into brick work and chunam [lime], having a flue constructed below them, with the grating, or rather fire place, at one end, and the chimney, or, at least, some hole to allow the smoke to escape, at the other. A chimney is a secondary consideration with the Chinese, and in many instances which came under my observation, the smoke, after passing below the drying pans, was allowed to escape, as it best could, through the doors and roofs of the houses, which, indeed, in China, is no difficult matter.

of bamboo as represented in fig. 82. Three or four persons now surround the table, and the heap of tea leaves is divided into as many parcels, each individual taking as many as he can hold in his hands, and the rolling process commences. I cannot give a better idea of this operation than by comparing it to a baker working and rolling his dough. Both hands are used in the very same way; the object being to express the sap and moisture, and at the same time to twist the leaves. Two or three times during the operation, the little bundles of rolled leaves are held up and shaken out upon the table, and are then again taken up and pressed and rolled as before. This part of the process also lasts about five minutes, during which time a large portion of green juice has been expressed, and may be seen finding its way down between the interstices of the bamboos. The leaves being now pressed, twisted, and curled, do not occupy a quarter of the space which they did before the operation.

When the rolling process is completed, the leaves are removed from the table and thinly shaken out for

the last time, upon a large sort of screen, also made out of split pieces of bamboo, and are exposed to the action of the air. The best days for this purpose are those which are dry and cloudy, with very little sun. The object being to expel the moisture in the most gentle manner, and, at the same time, to allow the leaves to remain as soft and pliable as possible. When the sun is clear and powerful, the moisture evaporates too rapidly, and the leaves are left crisp, coarse, and not in a proper state to undergo the remaining part of the process. There is no stated time for this exposure, as much depends upon the nature of the weather and the convenience of the work people; sometimes I have seen them go on with the remaining part of the operation without at all exposing the leaves to the air.

Having in this manner got rid of a certain part of the superfluous moisture, the leaves, which are now soft and pliant, are again thrown into the drying pans, and the second heating commences. Again one individual takes his post at the furnace, and keeps up a slow and steady fire. Others resume their places at the different drying pans, one at each, and commence stirring and throwing up the leaves, so that they may all have an equal share of the fire, and none get scorched, or burned. The process of drying thus goes on slowly and regularly. This part of the operation soon becomes more easy; for the leaves, as they part with their moisture, twist and curl, and consequently take up much less room than they do at first, and mix together more readily. The tea leaves being now rather too hot for the hand, a small and neat brush, made of bamboo, is used instead of the fingers for stirring them up from the bottom of the pan. By this means, the leaves are scattered about on the smooth chunam work, which forms the back of the drying pan, and, as they roll down on this heated inclined plane they dry slowly, and twist at the same time. During this operation, the men and women, who are employed, never leave their respective stations, one keeps slowly feeding the fire, and the others continually stir the leaves. No very exact degree of temperature is attempted to be kept up, for they do not use the thermometer, but a slow and steady fire is quite sufficient; that is, the pan is made and kept so hot, that I could not place my hand upon it for a second of time. In order to get a correct idea of the time required to complete this second part of the process, I referred to my watch on different occasions, and at different tea farms, and always found that it occupied about an hour; that is, from the time the leaves were put into the pan after exposure to the air, until they were perfectly dry.

When the operation of drying is going on largely, some of the pans in the range are used for finishing the process, while others, and the hottest ones, are heating and moistening the leaves before they are squeezed and rolled. Thus a considerable number of hands can be employed at once, and the work goes on rapidly without loss of time or heat,

the latter of which is of some importance in a country so ill provided with fuel.

The tea prepared in the manner which I have just described is greenish in color, and of a most excellent quality. It is called by the Chinese, in the province of Chekiang, *Tsaou-tsing*, or the tea which



THE ROLLING PROCESS.—FIG. 82.

is dried in the pan, to distinguish it from the *Hong-tsing*, or that kind which is dried in flat bamboo baskets over a slow fire of charcoal.

This latter kind, the *Hong-tsing*, is prepared in the following manner:—The first process, up to the period of rolling and exposure to the air, is exactly the same as that which I have just described, but instead of being put into the drying pan for the second heating like the *Tsaou-tsing*, the *Hong-tsing* is shaken out into flat baskets, which are placed over tubs containing charcoal and ashes. The charcoal, when ignited, burns slowly and sends out a mild and gentle heat. Indeed, the only difference between the two teas consists in the mode of firing, the latter being dried less and more slowly than the former. The *Hong-tsing* is not so green in color as the *Tsaou-tsing*, and I believe has rarely been exported.

After the drying is completed, the tea is picked, sifted, divided into different kinds and qualities, and prepared for packing. This is a part of the operation which requires great care, more especially when the tea is intended for the foreign market, as the value of the sample depends much upon the "smallness and evenness" of the leaf, as well as upon its other good qualities. In those districts where the teas are manufactured solely for exportation, the natives are very particular in the rolling process, and hence the teas from these districts are better divided and more even—although I should doubt their being really better in quality—than they are in the eastern parts of the province of Chekiang. When they have been duly assorted, a man puts on a pair of clean cloth or straw shoes, and treads the tea firmly into baskets, or boxes, and the operation is considered complete, in so far as the grower is concerned.

I have stated that the plants grown in the dis-

trict of Chekiang produce green teas, but it must not be supposed that they are the green teas which are exported. The leaf has a much more natural color, and has little or none of what we call the "beautiful bloom" upon it, which is so much admired in Europe and America. There is now no doubt that all these blooming green teas, which are manufactured at Canton, are dyed with prussian blue and gypsum, to suit the taste of the foreign "barbarians." Indeed, the process may be seen any day, during the season, by those who will give themselves the trouble to seek after it. It is very likely that the same ingredients are also used in dyeing the northern green teas for the foreign market; of this, however, I am not quite certain. There is a vegetable dye obtained from the Chinese woad (*Isatis indigotica*), much used in the northern districts, and called *Tein-ching*, and it is not unlikely that it may be the substance which is employed.

The Chinese never use these dyed teas themselves, and I certainly think their taste in this respect is more correct than ours. It is not to be supposed that the dye used can produce any very bad effects upon the consumer, for, had this been the case, it would have been discovered before now; but if entirely harmless, or inert, its being so must be ascribed to the very small quantity which is employed in the manufacture.

When the teas are ready for sale, the large tea merchants, or their servants, come out from the principal towns of the district, and take up their quarters in all the little inns, or eating houses, which are very numerous in every part of the country. They also bring coolies loaded with the copper coin of the country, with which they pay for their purchases. As soon as the merchants are known to have arrived in the district, the tea growers bring their produce for inspection and sale. These little farmers, or their laborers, may now be seen hastening along the different roads, each with two baskets, or chests, slung across his shoulder on his bamboo pole. When they arrive at the merchant's abiding place, the baskets are opened before him, and the quality of the tea inspected. If he is pleased with its appearance and smell, and the parties agree as to the price, the tea is weighed, the money paid down, and the grower gets his strings of copper money slung over his shoulder, and returns to his farm. But should the price offered appear too low, the baskets are immediately shouldered with the greatest apparent independence, and carried away to some opposition merchant. It sometimes happens, however, that a merchant makes a contract with some of the tea growers before the season commences, in which case the price is arranged in the usual way, and generally a part paid in advance. This, I understand, is frequently the case at Canton when a foreign resident wishes to secure any particular kind of tea.

After the teas are brought up in the district where they are grown, they are conveyed to the most convenient town, where they are assorted and properly packed for the European and American markets. Such is the system of green-tea culture and manufacture which came under my own observation in the province of Chekiang.

SUPERIORITY OF COTTON MATTRESSES.

THE object of this communication is, to show that, though wool mattresses are undoubtedly an excellent article, yet, if "Cato" will try a mattress made of cotton, with the same labor as in making a wool mattress he will not be so sanguine as to cheapness and economy. Mattresses are used in my family, winter and summer. We do not use feather beds—and we have now the wool and the cotton. In the summer, no one will prefer a wool mattress in my house, and in the winter, with a large blanket under the sheet, no one would know the difference, unless it is that cotton is most pleasant. These things are an old tale to the writer, having used them continuously for eighteen years, and he has written about them for ten years, and talked of them all the time.

Sixty pounds of cotton will make the largest possible mattress, and as there is no need of carding, it being whipped with a clean rod in each hand, and made up in a few hours, a cotton mattress of 50 or 60 lbs. is worth, say \$12 or \$15. Sixty pounds of wool will not make so large a mattress. It is easier made when the wool is ready as the needle passes through more readily, but the washing, drying, and carding is worth at least the price of the cotton; and then wool is worth at least thrice the price of the cotton. Let Cato lay aside Roman antiquities, and take up his arithmetic, and he will see where economy is.

Sixty pounds is needed to make the mattress to fit what is termed a family bedstead, nearly square—and if 70 lbs. of wool were put in that sized mattress, it would be none too much. A well-made mattress, six inches thick, two on a bedstead, with slats of plank underneath, need not be made over oftener than every four or five years—of course they should be sunned, and occasionally whipped clear of dust. A very good aid, is a slip to cover your mattresses. These slips can be washed, and thus kept clean. COTTON vs. WOOL.

GUANO.—We should be glad to hear from some of our observing farmers who have used guano since its first introduction into this country. A systematic and well-authenticated statement of the value of this manure as an application to various crops and soils, and in different seasons and circumstances, is still a desideratum with us. Information from intelligent, careful men would be invaluable as establishing its merits in comparison with other manures, and its durability and value to subsequent crops. From numerous experiments with this popular fertilizer, important rules and principles may be deduced of great value to the economical agriculture of this country.

RESOURCES OF THE SOUTH.—A friend writes us, that a field of corn, of 140 acres, on his plantation, in Louisiana, averaged last year, 91 bushels per acre, making 12,740 bushels; and that his present crop will be equally good. Surely, with such resources as these at command, the south may at least supply itself with corn meal as well as with bacon; and any time the planters see fit, they can produce large quantities for exportation.

AGRICULTURE OF THE CONNECTICUT VALLEY.

THE agriculture of the Connecticut Valley, in the neighborhood of Northampton, is subject to some, though not sudden or extreme changes. In the early settlements of the country, wheat formed one of the principal staples; but it has long since ceased to yield a profitable return. Occasionally a field of winter wheat may be seen, which does not well repay the cost of cultivation. The spring grain gives a surer crop, but is subject to so many accidents that it seldom occupies the attention of the farmer, who finds his labor and tillage much better rewarded by the substitution of rye. This is generally a profitable crop for the light soils that abound throughout this region.

Indian Corn.—This, from the first settlements to the present moment, has proved one of the most valuable of the staple products. The alluvial soil of this valley is peculiarly favorable to the production of corn; and nowhere on the continent is it produced in greater luxuriance; and nowhere, do I believe, to a greater profit. The farmers are very careful in the selection of choice kinds, especially of such as mature early, to avoid frosts that sometimes injure those that ripen late. They also plant only such as have full, heavy ears, and yield several ears to each stalk. The ground is generally well manured, and well tilled, so as to give a large yield; for it has long since been found that a man may keep poor by raising light crops, when he might just as well get rich by raising large ones, after deducting their extra cost for manures, labor, &c. The stalks will repay the cultivation in this neighborhood, where hay sells for \$10 to \$12 per ton, and the grain, which here always commands a comparatively high price, affords a handsome profit, besides an ample remuneration for the land and manure.

Broom Corn.—Several years ago, this yielded a large profit. The seed and brush occasionally gave over \$100 per acre, for nett profit, besides paying the rent of the land. Its cultivation was attended with a double advantage, as it furnished the neighborhood with a profitable winter's work in manufacturing it into brooms. But the fertile west, the Scioto and Miami Valleys, Illinois, Wisconsin, and Missouri, have devoted some of their rich lands to this object, and it is furnished from these sources at rates which render it less an object of attention here than formerly. The brush produced at the west, however, is coarser and more brittle than that raised in the eastern states, on land long subject to tillage. Although not so general a crop as formerly, there are still large fields of broom corn raised here, which, with much that is brought from the west, is manufactured in the surrounding towns for exportation.

Tobacco.—This crop occupies some of the best lands of this valley. No farmer devotes any considerable portion of his land to this plant, but many appropriate a few acres to it. It is a plant requiring great fertility to make it adequately productive, and much attention is needed at certain stages of its growth. For this reason, a small field may be very profitable where the requisite means are used, while

a larger one, suffering even a partial neglect, may be attended with absolute loss.

I noticed on the farm of the late Hon. Isaac, C. Bates, now in the hands of his son, Mr. S. H. Bates, of this town, some very choice fields of tobacco, which he informed me had been cultivated with a satisfactory profit. His crop, last year, averaged nearly 2,000 pounds of dried leaves per acre, ready for market, which sold, delivered at the railroad depôt, near the farm, at 9½ cents per pound. This gave a nett profit of about \$100 per acre. Some in this valley, have realized over \$200 per acre, for a single crop. The kinds raised by Mr. Bates, are from seed imported from Brazil, the West-India Islands, and elsewhere, some of which had been previously acclimated in this country. They are hardy, prolific varieties, with long, broad leaves, the ribs of which run nearly at right angles with the stem. These afford the most valuable kinds for cigar wrappers, and for this purpose are generally preferred to the produce of the Spanish islands.

The seed is sown early in April, in a rich mellow bed, where, if the season be cold, it lies till near the middle of May, before the young plants make their appearance. They are transplanted from four to six weeks afterwards, into well-prepared ground, in hills containing a single stalk each. They require about the same amount of cultivation as corn; but in addition, it is necessary to prime, top, sucker, and worm them; thereby much increasing the labor necessarily bestowed upon the latter. The first two operations are performed but once in a season, while the others require to be frequently repeated, as any neglect may materially impair the value of the crop.

It is cut about the 10th of September, before frost makes its appearance, and immediately hung up to cure, under cover, where there is a free circulation of air. The leaves are stripped and bound for packing in damp weather, in November, or at any time subsequent. It loses in weight, but improves in quality, by keeping, sometimes commanding an advance equal to 100 per cent. per annum, for the first two or three years after curing, from the superior flavor thereby acquired.

Flax.—A company for the manufacture of flax into cordage, twine, shoemaker's thread, &c., has been lately organized in this town, with a capital of \$50,000. The proprietors have offered prices for the cultivation of flax, which have directed some attention to this subject the present season, and it is estimated that 1,500 acres will be put into this crop the ensuing season, in anticipation of the demand. The company pay \$12 per ton for the undressed flax after threshing; and good land will produce 2,000 to 3,000 pounds per acre. The seed is worth \$1.25 to \$1.50 per bushel, which is yielded at the rate of 10 or 12 bushels per acre. This makes a profitable crop, even where considerable manure has to be purchased at high prices, to repair the exhaustion consequent upon the large demands made upon the soil, where the seed is allowed to ripen. If the flax is pulled before the seed matures, the exhaustion of the fields is much less, and the fibre is superior in quality; but there is the total loss of seed, which, after expressing

the oil, furnishes food of the most nutritious and fattening quality for stock.

A large company, with a similar object as the above, has been formed within a year or two in Middletown, Conn., with manufacturing branches, in other and remote states, and it is designed soon to erect buildings for this purpose in that state on an extensive scale. The latest improvements in steam-rotting, breaking, and dressing the flax, have been adopted; and the intelligent and enterprising proprietors confidently look forward to a handsome return for their capital, which, it can hardly be doubted, they will receive. These enterprises will open another source of profit to the agriculturists of New England, and supply a species of manufacture, for much of which we have too long been dependant on importations from abroad.

Beet Sugar.—The enterprise commenced here some ten years since, for the manufacture of *beet-root sugar*, never was fully carried out; and from the high price of labor, and the various products in our country, would probably have proved unsuccessful. This may be moderately profitable in France, where labor is cheap, and the land is divided among numerous small proprietors, who practise a very nice cultivation; and especially where the cane sugar pays a high duty. But our immense and rapidly-extending sugar region at the south, and the cheap labor applied to its cultivation, will probably forever preclude the success of any rival to the sugarcane in this country.

Ayrshire and Hereford Cattle.—Mr. Bates has a large number of cows and heifers from the Ayrshire bull, imported by the Massachusetts Agricultural Society, 12 or 15 years since. His testimony is in favor of their excellent milking qualities, though he thinks them decidedly inclined to be ill-tempered, kicking, &c. This last is probably an accidental quality, derived from a vicious parent, and is, by no means, characteristic of the race. I saw, the sire of this stock ten years since, and though decidedly faulty, and even uncouth in its form, he had the reputation of coming from the best milking stock, which his appearance did not belie. I saw at the same time, and previously, in several of the herds of this neighborhood, several choice descendants from the Hereford stock, imported by the late Admiral Coffin. Among them were as fine a pair of fat cattle as I have ever seen. They had done a full season's work at plowing, &c., but a few months previous. The cows were generally good milkers; and the experience of dairymen was, that although the quantity of milk was less, the quantity of butter was greater than from the other cows. Mr. Bates has a fine Hereford bull from the very superior herd of Mr. Sotham, of New York, from which he has confident hopes of continuing the improvement of his herds.

Mutton Sheep and Early Lambs.—The extensive flocks of Saxon sheep so long kept by the late Mr. B., have been disposed of for some years. Some of the best flocks of the early importations were brought into this state; but the system of agriculture pursued in the eastern and middle portion of it, has not admitted of rearing them to any advantage. Land has been too high, and other articles were too much in demand, to admit of keeping

sheep principally for their fleeces. If mutton commanded an equally ready sale with beef and pork, the long and middle wools might be advantageously reared even here. There are some farmers who keep flocks of the original stock of the country, partially mixed, perhaps, with some of the improved breeds, from which early and large lambs are produced with a decided profit. They are economically raised for an early market, where the owner has a yard sloping to the south east, with an underground shed, to which they can retreat, and where they are well protected from the chilling influence of the winter and early spring blasts. With a little attention, in the coldest nights, the lambs may come very early, and be fit for market, when they will command the highest prices.

The Crops.—These present a flourishing aspect, excepting potatoes, which, in the lower grounds, have already begun to suffer, and many fields show an extensive progress of the prevalent epidemic. It is not improbable, that those late planted upon the higher lands, may yet feel the fatal effects of this disease.

Improvements.—These throughout this valley, although not so conspicuous from the contrast, as in some other portions of the country are easily discernible, notwithstanding. They are shown by the introduction of the most improved plows, and other agricultural implements, the selection of the best seeds, deeper and more thorough tillage, and greater fertility, which is studiously provided for by every available means. The buildings are better, and more numerous, new hamlets and villages are springing up in various directions, whilst those of older date are enlarging their precincts and improving in their style of architecture and general arrangement.

Far beyond all these, is the new manufacturing town, recently commenced opposite Hadley Falls. On the Connecticut River, about eight miles below this place, a temporary wooden dam is now erecting, 1,000 feet long, and 30 high, at a distance of three fourths of a mile from the entrance to the canal above. This, it is designed to replace hereafter by one of stone. The extent of the future city may be inferred, from the fact, that there is a fall of 59 feet perpendicular, from the surface of the dam to the outlet of the raceway, and ample canals are in progress for conducting the whole body of the river at low water. The plan embraces a double, or triple row of the largest manufactories yet built, extending for nearly one and a half miles along the river bank. The enterprise is in the hands of some of the wealthiest and most enterprising men of Massachusetts; and, when fully completed, this water power is destined, probably, directly or indirectly, to afford profitable employment and support to one fourth of a million of human beings. Four bridges have been constructed over the Connecticut River since the commencement of the Western Railroad, and another is to be built immediately. All these are within a space of 20 miles, and cost on an average of about \$100,000 each. This one item shows something of the enterprise existing here.

R. L. ALLEN.

Northampton, Mass., August 15th, 1848.

REVIEW OF THE JUNE NUMBER OF THE AGRICULTURIST.

To Prevent the Ravages of the Turnip Fly.—If a system of culture can be adopted to cure this evil, it will be better than any doctoring of the seed or young plants. To this end, I recommend a top-dressing of ashes upon a grass sod, this year, very heavy, and for a crop next year, break up, and, if possible, yard sheep and cattle upon the ground for several weeks; during which, apply several dressings of lime, and then harrow without a second plowing, and sow the seed mixed with radish, as recommended, and I doubt if you have flies enough to eat up the radishes, and you will have a great crop of turnips.

Notes on Long Island, No. 3, Centre Island.—I am not aware what the original fertility of Mr. Smith's farm might have been, but certainly some 25 years ago, the crops upon no part of this island were equal to what you state them now to be. Your article would therefore be more interesting, if it had stated more minutely the process of Mr. Smith in bringing his land up to its present state of fertility, by which he obtains such bountiful crops. For there is abundance of land upon Long Island as capable of renovation as Centre Island; and if it can be done without too great an expense, it would prove a great blessing to a great number if they could be told how, and induced to do it.

We want a few more such men as Mr. McCoun, to leave the city, and help renovate the worn-out lands of this lovely island.

Protection of Buildings from Lightning.—Reader, turn right back to page 171 and read this excellent article. Study it thoroughly. It is a well-written article upon a very important subject. In regard to capacity of a rod, I do not think that a half-inch copper rod is at all requisite for an ordinary farm house or barn. [When properly constructed, and well put up, experience has proved this capacity to be abundantly large]. As it possesses the capacity of at least five iron rods of the same size, and as it is well known that an iron rod of five eighths, or three fourths, of an inch diameter is sufficient, I would venture to recommend a smaller copper rod, say three eighths, or even one fourth of an inch, when very short; or, what would be still better one copper rod of one half, or three fourths of an inch in diameter. The ends of the rods should never be linked together, but joined with a screw, one into the end of the other, or else, by a female screw as a boss over the ends of the adjoining rods. I fully agree with the editor, that iron rods, coated with metal, say tin or copper, would be better than paint, but I don't believe that a three-fourth inch iron rod, painted, would fail to be a good conductor 40 or 50 feet. [A rusty iron rod, or one covered with ordinary paint, is no better than one made of wood]. As to fastening the rod to the house with iron staples without isolators, I cannot recommend without more light upon my own mind. [The electric fluid is not much inclined to leave a clean copper rod, and run off at right angles on a rusty iron staple or wire]. But I can recommend trees, planted near buildings, as good conductors, and very cheap ones too.

Butter Making.—Never was a more sensible, plain, common-sense article written upon this subject, than the one to be found at page 173 of this volume. Butter, thus made and packed, will keep forever. I've tried it.

Cast-Iron Garden Chairs.—I notice this article only to suggest and recommend the "getting up" of iron chairs for household use. They could be made of tubes, so as not to be very heavy, nor very expensive, and yet exceedingly durable, and when broken, the material would still be worth, at least, as much as "old iron." In fact, I think garden chairs would be thus made cheaper and better than of cast iron. There would be one great advantage of iron chairs in hotels, steamers, and other public places; they would utterly set at defiance Yankee bargain makers, and Georgia tooth picks—in other words, they could not be "whittled."

Garden Implements.—Small specimens of a great many curiosities to be seen in the great "Agricultural Museum of New York City." *Admittance Free!*

The Cow—Her Diseases and Management, No. 2.—Read carefully the extract from Barlow's poem, and practice upon it, and you will rarely have occasion for the recipes for physic doses. But if you do, I have no doubt but they will be found to be valuable and well worthy of preservation, as they may be needed for future use.

Farmers in the Ascendant.—I wish this caption was more true. But notwithstanding that our legislature was composed of three times as many farmers as lawyers, such is the power of superior education, that the minority are, were, and will continue to be, in the ascendant, in spite of numbers, until the education of farmers shall be so improved as to enable them to ascend to the very pinnacle of the law-making power of our country.

Artificial Swarming of Bees.—Mr. Townley has given a very interesting article upon this subject. I will add one item to it. The past spring, I had a strong swarm in one of Weeks' hives, and I inserted one of the largest-sized drawers in the chamber when the bees first began to work, in which were several pieces of dry comb, to serve as guides. The body of the hive being full of old comb, the bees went directly to work in the drawer, and the latter part of May, I found the drawer full of bees, and withdrew it and inserted it in an empty hive at the time many bees were abroad. Then I moved the old hive, and put the new one in its place. The result was, that I had the satisfaction of seeing the workers return and enter, and the new colony go on at once, without loss of time, to make the best of their new home.

Construction of Farm Cottages.—It has been quaintly remarked that the degrees of civilization of any community were marked by the quantity of soap used. But it is much more strongly marked by the appearance of their habitations. And there is no subject with which a few pages of the Agriculturist can be filled every month, that is of more importance than such articles as the one now under notice, wherein various plans of buildings, suitable for the farmer, or country resident, might be illustrated. For a farm house, whatever may be the fashion, or appearance of the exterior, size, or num-

ber of rooms, the real old-fashioned, great, roomy, well-ventilated kitchen, and comfortable fire place, should never be dispensed with. [In parts of the country, where wood is scarce, or where coal is exclusively used for cooking, such a fire place, however comfortable it may be, can be of but little use]. Let this but accompany all your plans, and then give us a new one with every number.

Yankee Farming, No. 5.—Verily this Sergeant Teltrue hath heretofore buried his talent in the earth, for which he is not blameless. Nature has endowed all rational men with a faculty, that, in some degree, they might minister to the happiness of some of their fellow creatures. This faculty is most eminently developed in the Sergeant, in his most inimitable manner of conveying instruction, blended with amusement upon the subject of "Yankee Farming." Laughter is a great promoter of health, as well as of mirthful happiness; and he who hath the power to cause his neighbor to laugh and be happy, or healthy, and yet neglects, or refuses to exercise that power, "doeth not as he would be done unto." This power Sergeant Teltrue certainly has; and I hope, since he has found it out, that he may long live to reap the enjoyment that such minds as his ever feel, when they perceive the happiness that they have created. And I hope I may live to see the day that I can take him by the hand, and thank him for the share of enjoyment his articles have given me.

How to Manage a Kicking Cow.—This method is cheap, simple, and easily tried, and is worth to the dairyman ten years' subscription of the *Agriculturist*. And *How to Preserve Eggs*, ditto.

How to Make Doughnuts.—I certainly have expressed disgust at badly-fried nut cakes, but not half so much as I feel. Bah! the nasty lumps of greasy dough! But such doughnuts as "E. S." has tendered me an invitation to partake of with her, in her extremely neat and comfortable home, at Christmas, are not at all disgusting to me. And I here tender her my thanks for the recipes; and, as for the invitation, I certainly hope to have the very great pleasure, on the 25th day of next December, of showing her how much I appreciate that, by showing her a stout-built, middle-aged, plain-looking, gentleman, black hair, just on the turn towards grey, and a pair of pretty bright eyes, always grey, ruddy complexion, and an appetite for friendship and Christmas "doughnuts," whom I shall introduce to her as your friend,

REVIEWER.

PIPES FOR UNDERDRAINING.—We understand that our enterprising countryman, John A. Delafield, Esq., of Geneva, has recently ordered from Europe a machine for making pipes for underdraining, of the most approved and latest construction. We hope this is so, not only for the benefit which will result to Mr. D., but to the whole American community. While millions of pounds sterling have been expended in England and Scotland for the draining of lands, which have been improved probably more than four times the cost of the outlay upon them, we, the citizens of the United States, so full of enterprise on many other points, are perfectly stationary on this. This apathy is as unaccountable as it is inexcusable, and we trust the reproach with which our agriculturists are so justly

chargeable on this important subject, will soon be removed by some well-defined and enlarged experiments. We should like to hear from Mr. Delafield on this subject, or any of our correspondents. It is one of vast interest to every part of the country, on the low, wet lands of the south, equally with the cold, moist lands of the north.

COLD-WATER BATHING.

I HAVE read with much interest the excellent article in your August number on the advantages of cold-water bathing, regretting only that the writer omitted to point out the means whereby people living at a distance from "the sea, a clear river, lake, or pond," may obtain the much-prized luxury of complete, daily ablutions. Those who have not noticed the article, are advised to turn to page 246, current volume; read it attentively, and profit by the advice therein contained. The directions given will be acknowledged to be good by every one who has been accustomed to the health-giving, invigorating, but much-neglected exercise of swimming; which, I will add, by the way, ought to be considered an indispensable part of every young person's education. Girls, as well as boys, ought to be systematically taught to swim; thus rendering them more hardy, and capable of taking care of themselves when in the water, instead of their present fashionable state of dependence upon the ruder sex; and in cases of emergency, such as constantly occur at bathing places, and elsewhere, making them instrumental in saving instead of endangering the lives of their fellow creatures.

My object in asking leave to fill a column in your journal, published "for the benefit of farmers and others," is to point out some of the appliances and means whereby the inhabitants of our rural districts, with limited means, may, without much trouble, or expense, procure this great comfort for themselves, their wives, and children, when remote from free water, and at seasons when out-of-door bathing is impracticable; for though more pleasant in summer, it is not less necessary in every season, to preserve health by perfect cleanliness.

As to the best time for bathing, from long personal experience, I prefer the early morning bath. First, because it secures cleanliness for the day, which, if deferred, may be prevented in various ways. Secondly, because, for persons in delicate health, it is considered most beneficial, being a frequent prescription of physicians for debility and nervous complaints; and, thirdly, because it saves the time that would otherwise be devoted to a second entire change of dress, which, in winter, and moderate weather, is seldom desirable.

As this is written for plain, practical people, I shall pass with a slight notice, the luxury, but not the necessity, of having a room appropriated to the purpose, with its not unfrequent accompaniments, plunging baths, hot and cold, their trained attendant, the shower bath, and the sofa whereon to repose after the exercise. I will pass over the neat, modern portable shower bath, with which every house, nay, every chamber, may be furnished for a few dollars; and speak of those only that can be easily and cheaply provided.

Every farm house must have, at least, one large tub in it. Those who can afford it, should have

one made for the purpose, six feet long, two feet wide, and three feet six inches deep, in order that the shoulders may be covered with water, when the sitting posture is used. Those who cannot afford this, may use the great tub that is kept for scalding hogs in, which answers admirably. This, placed in an out-house, or shed, that can be shut from sight by a curtain, or temporary screen, should be half filled with water every evening. If a later bath is preferred, let it be filled earlier, and, if the water is too cold, let it stand for several hours in smaller vessels, exposed to the sun; or add a few gallons of boiling water. I never take, nor advise, a bath below 60°F. When the bathers have done with it, the water can be used for washing, scrubbing, or watering the garden. A shower bath can be made at an expense not worth estimating in this way. Enlarge the bung hole of a small barrel (an old churn will answer finely); lay it on pivots on which it will turn freely, in a box a few inches wider than the barrel; make a hole in this box to correspond with the one in the barrel, cover this hole with a plate of tin, painted, to prevent it from rusting, and perforated with *very small holes*, or the water will fall with too much violence on the head. Fasten a rope over the barrel, with the ends hanging within reach of your hands, when standing under it; one end to draw it over, and the other to pull it back by; then suspend the whole from the roof of a shed, or the ceiling of a room, so that you secure a fall of about two feet above the head, and you have one as effectual and complete as if it cost twenty dollars. Two bucketfuls of water is as much as ought to be taken at once; therefore, the barrel once filled, will last for several persons. ~~any other method is preferred by many people, to~~ person, and is certainly accessible to every one, being nothing more than to sit down in the largest tub you can get, wet a coarse sheet, and draw it over you, head and all; wrap it closely about you for three to five minutes; then throw it off, replace it with a dry one, and rub until a glow is produced. As a last resource, when nothing else can be procured, take the following method (any thing will do better than allowing you to think you *cannot* bathe); put on a loose garment, and take your seat in, or on the edge of the trough under a pump, and let some one pour over your back and shoulders two or three buckets of water; then throw over you a dry, coarse sheet, drop the wet garment, put on a wrapper, or cloak, if the weather be not very hot, and run to your chamber to rub and dress.

Before going into a bath, always wet the face, breast, and back of the neck; and when you rise from the water, put on instantly a loose wrapper of warm cotton, to absorb the water; then wipe and rub your feet, and put on slippers. This will prevent the chilliness that sometimes come on while you are using the rubbers and towels.

During my residence in Ohio, I knew the wife of a farmer, who, with his boys, worked his little farm, and lived comfortably by dint of the most persevering and patient industry. This woman had been born and educated in one of the Atlantic states; and she considered the daily bath of so much importance to health and comfort, that in all her difficulties it was rarely omitted. Her log house

was small and inconvenient, consisting only of two rooms and a wood shed below and three small chambers above. The kitchen, as in most farm houses, was the largest room, and, in one corner of this, she had placed for the winter, a hogshead cut down, and screened from sight, when in use, by a bed cover hung from the joists above. In the summer, it was in the wood shed; and in this primitive kind of bath, she dipped, first the children, and then herself, every morning, while the men were feeding the stock, and the kettle on the fire preparing for breakfast. Her neighbors sneered, and wondered how she could take so much time, and before breakfast, too; but she said, good naturedly, that in twenty minutes all was finished, and comfort and cleanliness secured for the whole day; and, certainly, a more healthful, merry set of children never rewarded a mother's care.

Now, Mr, Editor, I trust I have not written in vain. The article upon which these remarks are founded must have convinced the most prejudicial of the healthfulness of the practice of using cold water daily, and freely. This, as before stated, will point out the means, and leave no excuse but *laziness*, which few will urge in favor of unclean habits in themselves and others. * M. *

PERIOD OF SUCKLING YOUNG ANIMALS.

THERE are thousands of planters in the south, who would read the article on this subject at p. 221, in the July number of the *Agriculturist*, with condemnation; because there are few who have ever weaned off any description of farm stock. Their mares are fed till the ninth day, and the colts suckle until the mare weans them; likewise cows, hogs, sheep, &c. &c. and yet, no one ever has I have weaned off all kinds of stock, and I have suffered all kinds to run with their dams, and the losing of all, or of one fiftieth, at four months, or any other age, never occurred. This day, I weaned off twenty pigs from three sows; but it was with the view to avoid feeding them so high, as I wanted to push my pigs. I have seventy-one other pigs that weaned themselves, running in the woods. Since the farrowing of these, I have lost some two or three from various causes. Had they been in the order of my twenty, I would have lost more. Fat pigs die off faster than poor ones in this latitude. Some think they are peculiarly subject to the *knife fever*, with whom I agree. I can show now as pretty calves as any one can, and I have no doubt some of them will suck until a month of their dam's bringing another calf; nor have I lost a calf in seven or eight years, since I had a pasture for them. I have ten or fifteen calves dropped a year, 75 to 150 pigs, and 20 to 40 lambs. Sometimes I separate them, but as to cut stock, never, unless it be sheep.

There are many men south, who would throw down your paper, and condemn it at once, from reading your account of that "meeting." They think from raising from one to one hundred young per year, that it is gammon to talk of young dying from sucking too long. Owners of 5,000 cattle, they would say, would soon be "cowless," if the doctrine were true. Cananche ponies would

soon be "all but a dream, at the best." As for rabbits, and wild animals, What of them? (a)

If you want a choice pig, wean it at four weeks, feed high, and it will be worth any two of the remaining six or eight; because it has an abundance, whereas, the others have not; and if allowed to suck, and yet fed equally high, it will not eat so much, but depend more upon nature's beverage and will exercise too much. A colt, or a calf is not so easily taken care of; and a lamb, though easier to be provided for than the colt, will not attain the same size. These are the opinions of

SOUTHERN BACKWOODSMAN.

(a) That cattle, swine, and horses, as well as all kinds of wild animals, will propagate and rear their young in a state of nature, without the aid of man, no one will pretend to doubt; but the most common knowledge of breeding our domestic animals shows, that, with proper care in regard to fixing the season for the males to cohabit with the females, the choice of food for the latter during their pregnancy, and the regulating of the aliment of their young for the first few months of their growth, they are more healthy, attain a larger size, and are superior in every respect. For interesting remarks on this subject, see pp. 31, 60, 127, of the present volume.

ACTION OF WATER ON LEAD PIPES.

SOME few months after the introduction of Croton water into our city, my attention was called to investigate its action upon the lead pipes which were used to carry it into dwelling houses, &c. In several instances, I detected lead in the water which had stood in lead pipes over night, in situations where free use was made of the water during the day. I have also found notable quantities of lead in Croton water, which I drew from a lead pipe in the third story of a house, at least a year after the pipes had been fitted in the house. The water was but seldom used from this pipe, and that which I drew from it for examination, had probably remained in it for more than a week. Subsequent to this, I made a series of experiments, with a view to determine the action of Croton water upon pipes made of pure lead, and of alloys of tin and lead, and also those made of lead coated with pure tin, after the plan of Mr. Ewbank. These pipes, of some thirty or forty feet in length, were filled with water brought in a cask from the Croton River. The water was displaced from the pipes by admitting a fresh supply at intervals of a day or two, for three weeks; and that which escaped was tested each time. The result proved that the water which passed through the lead pipe always contained lead, while that from the pipe made of the alloy of tin and lead, as also that from the pipe coated with tin, both upon the inside and outside, did not contain a particle of lead, but for the first few days yielded a trace of tin.

It is possible that the water, in passing rapidly through a lead pipe of moderate length, in constant use, may not become so impregnated with lead as to be injurious to health. But there are hundreds of instances where the pipes are conveyed to the

second and third stories of houses, where the water is seldom used, but from which the servant may find it convenient to fill a pitcher. The internal use of the water from such situations, I have no doubt, is highly injurious, and manifests itself by tremulousness and general debility of the nervous system.

JAMES R. CHILTON.

New York, June 12th, 1848.

MANURE FROM THE OCEAN.

WE were forcibly struck, while spending a few days, last season, in the pleasant neighborhood of New Haven, Conn., with the uniformly magnificent fields of Indian corn, that everywhere met the eye. From the constantly varying surface of hill and dale, rocky eminences, and marshy plains, and the number of small, landed proprietors occupying them, the fields, though numerous, were not extensive. But they were invariably of the most luxuriant growth, and would yield from 50 to 80, and perhaps 100, bushels of shelled corn per acre.

This luxuriance was almost exclusively the result of the application of fish and sea weed. The latter is thrown upon the shore by storms, or, what is more usual, is gathered from the rocks, *far below the surface of the water*, by those who make it a business during the proper season, for the purpose of selling to the farmers. The fish are principally the mossbunkers, that come upon the whole eastern coast in countless shoals during the summer months. But with these a great variety of others are brought to shore in the capacious nets that are used. We saw young sharks, of considerable size and number, among vast multitudes of others that were taken at a single haul; and we thought them much more appropriately ~~used~~ ^{for} them.

The practice above noted, has raised the price of land from \$15 or \$20 per acre, to \$75 and \$100. It shows, conclusively, the advantages to be derived by an intelligent husbandry, whose attention is awake to every object that can be enlisted for the promotion of its interests.

THE WAY TO INDUCE SOUTHERN PLANTERS TO IMPROVE THEIR LANDS.

EVERY sincere friend of America would be rejoiced to see the north, the south, the east, and the west enter into a spirited improvement of their land culture, morals, intelligence, good feeling, and, in short, enter fully into the spirit of elevating the standing of the American character. Now there are no two men in our land who are more desirous, and who labor more for this end, or with greater zeal, than do our R. L. Allen and our "Reviewer." The south requires a great stimulus, and all our country might take a small dose without any injury; and I think the true and only plan is, to let time work its way. We must remember that it is only a few years since New York, Massachusetts, and others began. They had to be forced into it by necessity and an abundant population; and it is doubtful, to at least one, if the south has not improved in about an equal ratio. From an intimate knowledge of the entire south, I feel justified in saying, that there has been a vast improvement within the past ten or twenty years. Improved im-

plements, improved stock, better culture, more thought, and better crops are the result.

Fifteen or twenty years ago, five or six bales of cotton was considered an excellent crop; corn was worth scarcely ever less than 50 cents per bushel; now 6 to 8 bales is not deemed very excellent; corn can be bought in the same county at 25 to 37 cents per bushel. There are laggards in the field, and so there are everywhere; no apology for any one to be thus, because there are such at "Reviewer's" elbow; but still, to encourage others, due credit ought to be given. Five years ago, 30,000 bushels of corn from foreign parts were needed, in a small scope of country; now, very little corn will sell there; a few, comparatively, have to buy, but the many raise a surplus.

The south has not been forced to seek shelter in her resources; land has been cheap, and our erratic disposition, as a people, forces us off to search new homes; this is a weakness, I think, but it belongs to the nation. A part of the south is worn out, and their citizens are forced to exert themselves. They are moving and will soon be on the way.

Improvement in agriculture must work its way very shortly; the south is sparsely populated, and it needs a general system of education. Educate the mass, and you at once overlook prejudice and intolerance. The uneducated are exceedingly jealous. They think every one desires to take an advantage. They fear every new thing is intended to cheat; old ways must linger on until the younger part of our population are enlightened, precisely what all centuries have passed through. We must not be impatient; let us labor on hoping for all things good. I can show fields of corn, that will average over 30 bushels per acre, whereas, ten years ago, on the same farm, 15 bushels was the average. This is no solitary instance, and the fact of an increased demand will cause an improvement.

CHEROKEE.

DRAIN YOUR LANDS.—Let not a particle of stagnant water lie on the surface, nor under the surface of the lands you cultivate. One of the best of all blessings is pure wholesome *running* water. But see that it is running, and not stagnant. The latter destroys all useful vegetation, all economy in working the land, all health, and all beauty of landscape. It is the loss of everything as far as it extends, and breeds malaria and disease for cattle, and all domestic animals, equally with man. Manures are inoperative upon wet or moist lands.

Do not content yourself with removing what is on the surface, for stagnant water, just below, is frequently equally prejudicial with that which is visible. This may be removed by under, as the former by surface, drains.

ACTIVITY OF THE VITAL FUNCTIONS OF PLANTS.—Many plants and fruits mature better and more perfectly after removal from their natural condition, than when allowed to continue in it. Wheat, oats, and many other grains fill out better, and make a finer quality of flour, than if allowed to ripen while standing in the field uncut. Many specimens of the pear are richer, more juicy, and higher flavored, if plucked and allowed to ripen when spread upon a table in the shade; and numerous species

of both these and apples do not ripen for months after they are picked. Cabbages and cellery will continue fresh, and add to their growth for months after being removed to the soil of a suitable cellar.

STEAMING FOOD FOR CATTLE.

If the nourishing particles contained in straw, in its compact state, and which, especially on account of their great quantity, cannot be dissolved by the animal organs of digestion in the short space of digesting and ruminating, are prepared and rendered more digestible by being previously boiled or steamed, they will be found to give the cattle a much greater degree of nourishment.

Setting out from this undeniable position, there have been established at all the larger farms at Alscúth well-constructed steam apparatus for steaming the cut straw before its being given to the cattle; that is, for boiling it in hot steam, in order thereby to change it to a fodder at once more digestible and nourishing.

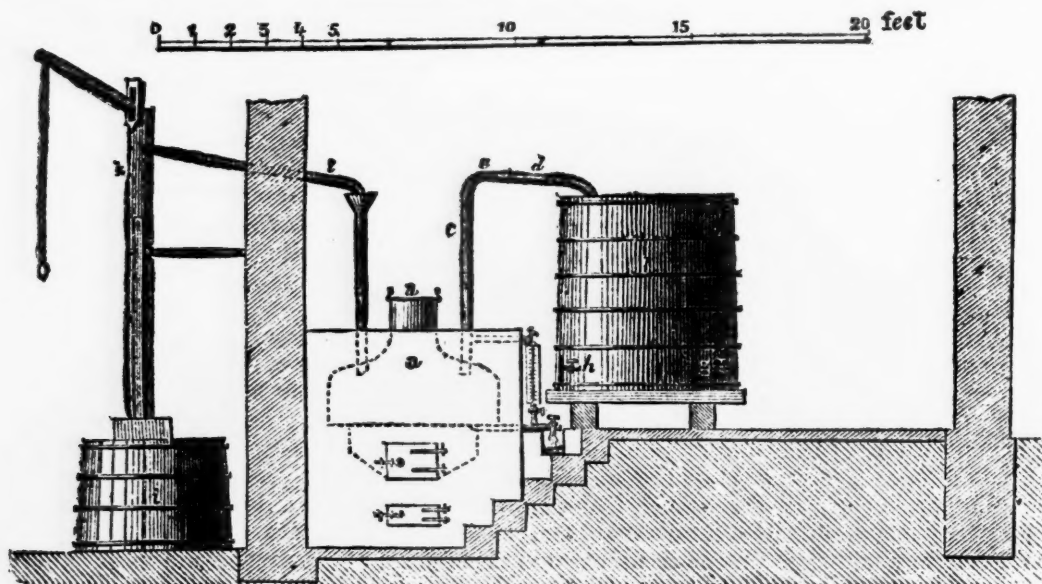
The following is a description of the apparatus:—The upper boiler *a*, fig. 83, is 5 feet in width below, its bottom trailed up 9 inches, and the sides are 15 inches high to the bend. The steam is conducted from the boiler into the casks *b, b*, by means of a pipe *c*, which leads into two arms *d, a*, and which, by means of two stopcocks *c, c*, give the steam an outlet into either of the vessels. The casks made of pine wood are in form of a cone; they are bound with hoops of iron, and are placed with their wider bottom upon stone sockets one and a half feet high. These casks are 7 feet high; their diameter is 7 feet 6 inches below, and 6 feet 10 inches above. In the top of the casks is a round opening at *f*, 15 inches in diameter, which serves to fill the casks with chaff from the loft above. There is also on the lower side of the casks a square opening *g*, by which the chaff, when steamed is again taken out. To both the openings are covers of wood, which are trimmed with coarse cloth, or strong linen, and which are fastened by wooden or iron cross rails, so as to keep the openings the better closed. The small copper pipes marked *h*, serve for the escape of the steam after it has completely penetrated the chaff. Finally, behind the boiler, stands a wooden vessel *i*, which is placed in the earth, and which is loaded with beams; and from this vessel, the water contained therein is conducted into the boiler by means of the pump *k*, and the funnel pipe *l*.

The chaff is steamed either by itself alone, or it is previously mingled with potatoes cut into small pieces; in the latter shape, it is used as fodder only for cattle. The chaff is to be one half wheat and the other half oat straw. For horses and sheep, it is cut half an inch long, for cattle, a full inch. The hay of second and third qualities is likewise cut into chaff and mixed up with the chaff straw; it is put into the steam casks, whereby its taste is improved and its nourishing power much enhanced. A steam vat holds from 750 to 800 lbs. of chaff. For cattle, there are mixed to one barrel of chaff three bushels of potatoes. Within an hour, the whole is steamed, and 30 such decoctions require, for firing, one half cord of hard wood. One man is sufficient to tend to the apparatus.

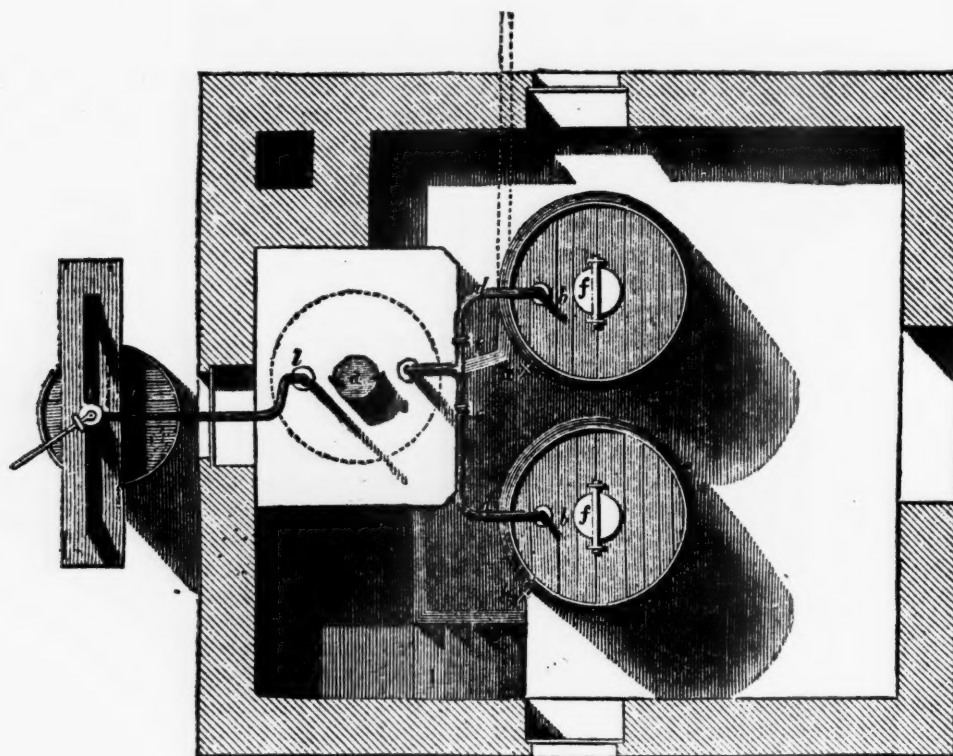
An apparatus so extensive and costly, to be sure.

can be made use of only where there is a large consumption of chaff fodder; but, on the other hand, it will unquestionably give rise to a very material change in the system of supporting domestic animals. Although it is plain, at the very outset, that these fodder arrangements are sure to give their projector a great profit, yet there is another question to be settled beforehand, namely,

how will the health and breed of cattle, in the course of time, ultimately be affected by this system of feeding? It is evident no decision as to general introduction of chaff feeding for the whole stock of the manor can be arrived at except by a very careful examination and consideration of the subject, and by previously submitting it to the test of experience. This trial was made, and it was



APPARATUS FOR STEAMING FODDER.—FIG. 83.



HORIZONTAL PLAN OF THE ABOVE.—FIG. 84.

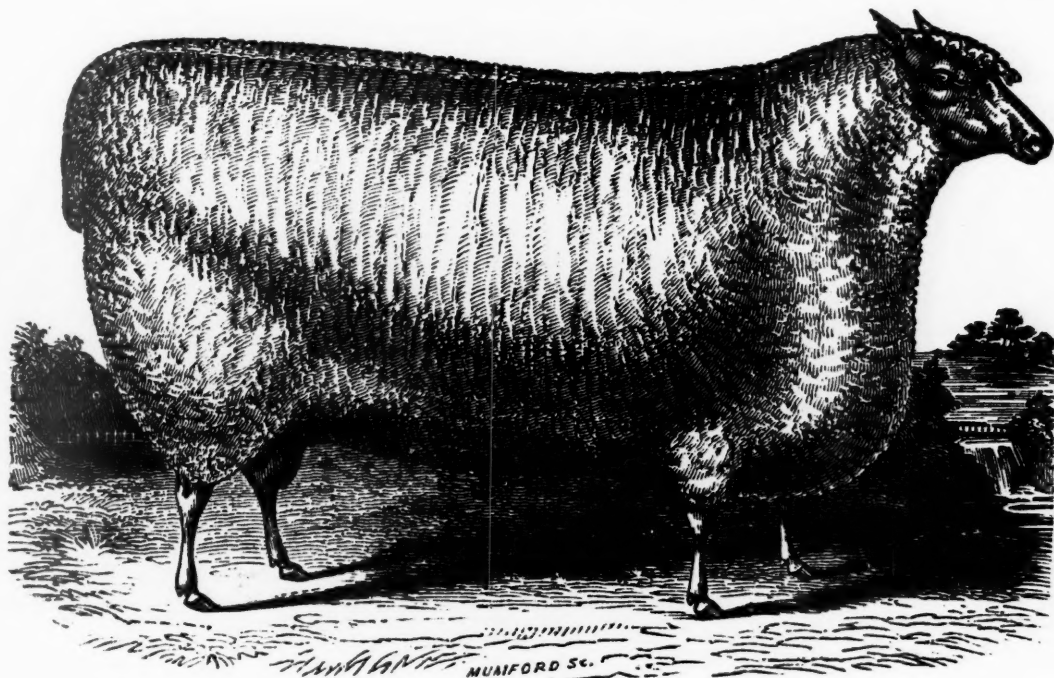
found to succeed well; the system was generally introduced, in 1839, and two years thereafter, the measures taken by the director of Alscúth, were fully justified by their good success. For the animals fed chiefly with steamed chaff, continued in excellent health and condition; and the liveliness

which the cattle showed, both in the stall and in the yoke is a clear proof that the food answers in the most perfect manner all the requirements of the animal organism, both of cattle for draft and breeding cattle.—C. L. Fleischmann, in *Patent-Office Report*.

ROUGH NOTES BY THE WAY.—No. 2.

On my way up the river, I visited the farm of Mr. Clayton B. Reybold, four miles from Delaware City, in the state of Delaware, in order to see his celebrated flock of long-wooled New Oxfordshire sheep, of which I had heard much, but of which the truth has not always been told. It has been stated, I know not on whose authority, that they are coarse in their form, as well as in their wool. But this is not so. His four-year-old buck, of which fig. 83 is a faithful portrait, weighed, with his wool, on the 15th of May last, 361 lbs. The weight of his fleece was 14½ lbs.; girth round the body, after shearing, 5 feet 9 inches; length from the tip of the nose to the root of the tail, 5 feet 10 inches.

The fellow of this buck died last spring of yellow water. The weight of his fleece, second shearing, was 17½ lbs.; and his carcass, when dressed, weighed 206 lbs. These bucks were selected, in England, by Mr. Reybold, at 40 guineas each. He also purchased, at the same time, six ewes, and has others now on their passage of the same breed; but those who buy must not always expect to get sheep of the enormous size of those named above. For the same care and attention are not observed in breeding in this country as in England. The climate there is considered as cooler and better for sheep than ours, and the turnip crop here is by no means a sure one, and this or some other root crop is all-important as winter food for sheep; and besides, our farmers in general appear



NEW OXFORDSHIRE BUCK.—FIG. 83

to be unwilling to encourage the raising of fine stock of any kind. Hence it is, that so few are to be found who will take the trouble of a voyage across the Atlantic, and pay \$200 for a sheep besides the risk and other expenses attending importation.

I hope I may be excused, if I say a few words concerning the farming operations of Major Philip Reybold, father of the above, as well as of the other members of his family. He has twelve children, all married except two daughters. He has retired from the old homestead and built an elegant new mansion upon an elevated spot of ground, from which he can view, patriarch-like, the dwelling of each of his sons, who, together with their sisters and brothers-in-law, own 8,000 acres of choice and highly-cultivated land, a considerable portion of which consists of reclaimed salt marsh. One large tract, that had been diked and under cultivation for nearly half a century, and had become completely worn out by injudicious and successive cropping, was caused, a few years ago, to be overflowed again by the tide waters of the Dela-

ware, by opening the dykes, and left in that condition for five years, when it was found that a deposit three and a half feet in depth, had been formed over its whole surface. The water was again shut off by closing the dykes, and the land sown with Timothy, which took well, and is very stout on two thirds of the tract, but on the lowest parts it entirely failed, and herdsgrass (red top of New England), came in without seed and now (July 18), is yielding a crop of two tons or more to the acre. There is also a mixture of white clover throughout the whole tract. Query. Where do the red top and white clover seed come from? Whence are they derived? Upon what principles do they originate? (a) Ray grass does well on these lands and is excellent for early and late soiling feed, but is worthless for hay. There is also another grass natural to these meadows, upland as well as marsh, which is here called "green grass," which grows very thick and retains its verdure all winter.

According to the analysis of Mr. William M. Uhler, made under the direction of James Booth, Esq.,

Geological Surveyor of Delaware, the fore-named deposit from the river contains the following ingredients :—

Protoxide of iron,	6.609
Silica,	64.600
Alumina,	12.510
Manganese,	trace.
Lime, combined with sulphuric acid,	0.311
Lime,	0.170
Magnesia,	0.860
Soda,	0.404
Potassa,	0.465
Phosphoric acid,	0.982
Sulphuric acid,	0.485
Chlorine,	0.140
Organic matter,	6.080
Water,	5.500

99.116

This soil is considered as of the first quality and contains all the elements essential to fertility.

The Messrs. Reybold are still going on draining these marshes, and for the purpose are erecting windmills to pump out the water, of which I may speak more particularly hereafter. Mr. John Reybold has erected one to supply his spring house with water. Of their dairies, I examined only one, consisting of 48 cows, from which were made and sent to market, in the month of June last, 1,225 pounds of butter. Among these cows were some young heifers, a few strippers (cows nearly dry), while there were others suckling their calves; so that, with what milk and butter were used in the family, 40 of the number would be a fair estimate, yielding within a fraction of a pound of butter to each cow per day. Some years since, Mr. R. purchased an entire herd of Holstein cows of a person who imported them, from which he has been breeding ever since, crossing them with other blood, mostly Short-Horns. Had he been careful in preserving a thorough-bred strain of the Short-Horns, now, with his rich pastures, he would probably have had a herd superior to any in America. The cows, however, on all the farms, are generally good, but more pains ought to be taken in breeding.

Mr. R. puts up his butter in half-pound blocks in boxes 12 by 18 inches and 2 feet deep, shelved all round the inside with six shelves, one above the other, having a copper tube, 6 inches in diameter, in the middle, which is filled with ice. In the lower end of this tube and also in the bottom of the box, there are holes to let off the water formed by the melting ice. In this manner, the butter is sent to the Baltimore and Philadelphia markets, where it sells readily for 25 cents per pound. The churn consists of a revolving cylinder, holding from 100 to 120 gallons, not quite so long as a hog-head, but larger in diameter, and less bulging in the middle, and is worked by a windmill. The milk house is half under ground, having a cemented stone or brick floor, with streams of cold water, constantly running through broad, cemented gutters, two or three inches deep, all about the pans. The milk of one of the other dairies is made into ice cream, which is sent to market with the butter. As it was six o'clock, of a hot afternoon,

much fatigued with the labors of a long day, I did much better justice to myself in testing the qualities of the ice cream, than to the owner thereof.

The peach orchards of Messrs. Reybold are notorious throughout the country. The trees are generally planted about 20 feet apart, with the branches interlocking each other, and are loaded with fruit, presenting the appearance of a forest. They sent to market, last year, upwards of 90,000 baskets, and this year, 1848, they think that they will have double the quantity! Mr. Clayton Reybold, the owner of the sheep before described, has about 400 acres of land, a part of the old homestead, where he has a peach orchard, on which he employed, last year, two yokes of oxen, five pairs of mules, and other hired teams in conveying his peaches to market. Much of the labor of gathering the fruit is performed by mechanics and other people, from Philadelphia, who come more for a pastime than for profit. They live and sleep, during their stay, in a large building on the farm, which is occupied a part of the year for storing grain.

I am no agrarian, and have no disposition to see this large estate cut up and divided among those who have been less successful in accumulating wealth. Such a numerous and enterprising family, with such industrious and economical habits, who have shown themselves in so striking a degree, I for one, wish to see them live and prosper together. I have said nothing of the sons-in-law, not having had the pleasure of meeting them at their houses. I understand, however, that they are contributing their full quota to the prosperity of the concern. One of them, a Mr. Clark, is a very successful agriculturist, and is president of the Delaware State Agricultural Society. There is one thing, however, which I wish the reader to understand; that is, the repeated observations which I have made, from time to time, in the *Agriculturist*, of too much land, does not apply here; for, although the farms are all large, they are well cultivated, and produce fair crops.

SAMUEL ALLEN.

Delaware City, July 19th, 1848.

VALUE OF URINE.—It is calculated that the urine of the twenty millions of inhabitants of Great Britain, if saved and applied to the growing crops, would be worth annually, \$25,000,000! This would be equal to 500,000 tons of Peruvian guano, valued at \$50 per ton! What an item to be saved among the farmers of that country; yet, it nearly all goes to waste there. In the United States, it is still worse; for we save comparatively but little from our domestic animals, whereas, in Great Britain they save a great deal.

(a) The subject of the apparent spontaneous growth of vegetation has been a theme of much speculation, and has drawn out many curious facts useful to be known, without arriving at any definite or satisfactory results. The following article on the Spontaneous Growth of Vegetation, although not according, in all respects, with our own views, contains some interesting information on the subject, and is well worthy the perusal of all those who are engaged in speculations or investigations of the kind.

REMARKS ON THE SPONTANEOUS GROWTH OF VEGETATION.

WHILE editing the Farmer's Gazette, a few years ago, I took occasion to throw out some facts and reflections under the head of the "Spontaneous Growth of Forest Trees, Grasses, and Other Vegetables," for the purpose of eliciting further discussion among my readers, on the physiological principles of vegetation. Believing that you may find it a topic suitable for your journal, I take the liberty to offer the substance of my reflections, which may not have come under general observation.

There is something seemingly inconsistent in the established principles of vegetation, in the succession and apparently spontaneous growth of trees, grasses, and other vegetables; by the springing up of a new crop without the planting of seed. These occurrences take place without the ordinary aid of human instrumentality. They are, so far as we can ascertain, natural or spontaneous productions. In the "Memoirs of the Philadelphia Agricultural Society," there are named many well-authenticated instances of this sort. New grasses, new plants, as well as trees, are found to spring up in recently-cleared lands, without the planting of scions, or seeds, and where no seed, nor trees, of those species could be found to have previously existed in any part of the country surrounding. Go into a wilderness, twenty miles from any clearing, or tract under cultivation, or where there is a growth of clover, and cut away the timber and brush, so as to let the rays of the sun to the earth, and the second or third summer after, without moving the surface of the soil, a luxuriant crop of white clover will cover the ground. The application of a light sprinkling of plaster, also, without stirring the soil, even in an old, worn-out field, will cause white clover as well as red, to spring up luxuriantly, in a few months, where neither seed nor root of their kind had been known to exist for ages.

In New Jersey, and most of the states south of it, large forests of pine, exclusively occupy extensive tracts. Cut away the pine, or burn it off, and let the ground lie for a few years, untilled, and a new forest, almost entirely of oak, will spring up, and cover the whole clearing, where, previously, neither an oak nor an acorn had been seen or known to exist within many miles. Nurseries of young oaks, formed by nature, in this way, are also found in the centre of extensive forests of pine.

In other instances, pine has been known to succeed trees of other species. In the course of the last century, white pine was known to spring up spontaneously, or without any planting, in Duxbury, Massachusetts, without having previously been known to grow in that vicinity. Sixty or seventy years ago, a man was living in that town, who remembered the first pine tree that appeared in that region. Yet, about forty years since, pine constituted about one eighth part of the timber of that section.

The late Judge Peters, says, that, in South Carolina, in 1802, a disease commenced in the pine woods, that destroyed large forests, which have since been succeeded by a growth of hickory and oak; and that a total change of timber occur-

red within his memory in a tract of his own, of about 800 acres, in Northampton county, Pennsylvania. "Previous to the revolution," continues he, "I knew it to be covered with pitch pine. It was called the pine tract. The first growth of timber was blown down by a tornado, and consumed by the fires of the woods, a mischievous practice which was common in that quarter. It is now entirely re-clothed with oak, hickory, and other valuable, well-grown, and thriving timber, and scarcely a pine tree is to be seen." He also knew, as he says, "a grove of white pine thrown up spontaneously in old fields, where no timber of that species had previously grown, and far from any such trees."

In the state of Ohio, I have noticed, and believe the same occurs in other beach and maple lands, that where the timber has been destroyed by tornadoes, the succeeding growth is wild cherry, with a mixture of white ash. Dr. Mease, formerly secretary of the Philadelphia Agricultural Society, says the same occurs in the beach and maple lands in Pennsylvania. He expresses an opinion that the growth of these kinds of timber began in 1794 or '5, and is of the belief that beech and maple succeed hemlock, and that the natural successors to beach and maple are wild cherry and white ash.

Numerous instances of this natural succession of trees, and growth of plants, occur under circumstances altogether irreconcilable with the known principles of propagation by scions, or by seeds.

Whence then are they derived? Upon what principles do they originate? Judge Peters and other writers, of Pennsylvania, believed they are a new and spontaneous production, brought into existence by the new order, or state of things, resulting from clearing and cultivation of the ground; and the effects seem to justify that opinion.

Every philosophical and chemical principle which is implanted in the vegetable creation, was originally the same that has since been developed by science; and to suppose that the production of plants, or trees, are, in any manner, inconsistent with the Mosaic history of the creation, would make a contradiction between the word and works of God, and amount to an impeachment of his immutable laws. But the truths and principles, expressed in the former, are completely corroborated by the latter.

Now, what were the inherent principles upon which grasses, herbs, and trees were originally formed, or made to grow? For they did not rise out of the earth instantaneously, at bidding, as Lazarus did, but *grew up*, as they now grow.

By chemical analyses, it has been ascertained that vegetables are composed of certain elements, or substances, which, by the influence of heat, light, and moisture, are made to assume and develop certain specific organic forms, as is manifested in grasses, trees, and herbs, in each of which is implanted, by the Creator, the principle, or power, of yielding seed and fruit after its kind. The elements and principles, or qualities, contained in the original formation of vegetation were precisely the same which are contained in the same kinds at the present day; because the seeds of both are alike "after their kind."

And what are the truths of Divine Revelation in this subject? From the Mosaic account, the order

which the Creator adopted was not first to form seeds and fruits, and cause those seeds to propagate, all over the earth, grasses, herbs, and trees, after the manner in which man propagates them. The distribution of the innumerable kinds of seeds, from any one place on the earth, into all the islands and remote parts of the globe, could not have been accomplished without extraordinary and miraculous agency, continued for ages after the creation was completed. But the creation of the elements which are contained in the vegetable world, and the establishment of certain principles in the earth and its atmosphere, which were to remain uniform and perpetual in their operations all over the world, whenever and wherever they were, by any circumstances, brought into combination, was the more natural, appropriate, and expedient mode of creation, and one which is perfectly accordant with that given by Moses. For "God said, let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself upon the earth."

The order adopted was, first, to cause *the earth*, by the established qualities, and the chemical and philosophical principles on which itself and its atmosphere were formed, to produce, by spontaneous growth, without seed, or scion, grass, herbs, and trees, which yielded seed and fruit after their kind. The trees did not first grow from created seed; for they were first made to grow out of the earth by the combination of certain elements, operated upon by certain established principles, and when grown, yielded seed, or fruit, after their kinds, in order that man might be able to propagate them when and where he pleased. The miraculous creation consisted, therefore, in the formation of certain elementary substances, impressed with certain principles, perpetually producing uniform results, under certain combinations adapted to those results. The present growth of trees, or other vegetables, in conformity to these original, established principles, is, therefore, though without seed, no new creation, but organizations under the continued operation of the same principles, by which the earth was "first made to bring forth grass, herbs, and trees, yielding seed and fruit after their kind." I am aware that oleaginous seeds may lie for years, perhaps for ages, in a dry state, or buried in the earth beyond the influence of the sun's rays, without vegetating. But that clover, nuts, acorns, or other seeds, should lie many years in old, worn-out fields, without sprouting, so near the surface of the earth as to be subject to the influence of heat and moisture, which invariably cause seeds to vegetate, and so near as to be brought out by the application of a little plaster, without stirring the soil, is irreconcilable with all the established principles of vegetation.

J. W.

New Haven, Ct., Feb., 1844.

ASPARAGUS may be covered with salt to the great advantage of its growth and perfection, and while ministering to the support of this plant, it will kill all others infesting the bed.

SALT is one of the most useful, and frequently the most economical, manures. It is beneficial to nearly every crop.

UNDERDRAINING.

PURSUANT to promise, I will give you a dissertation of my mode of constructing underdrains. The method which I now practice, is, to plow with a common surface plow, two furrows in depth, shovelling out the mellowed earth at each plowing; then by placing a strong pair of oxen, or horses, tandem, in the drain, and attaching them to a one-handled sub-soil plow, I mellow the ground, and, by repeated plowings and shovellings, the work is completed. By this method, at least 50 per cent. of the labor is saved that was required by the old process of picking and shovelling. The usual dimensions of the drains, which I have generally constructed by this process, is about three feet in depth, about two feet wide at the top, and about sixteen inches wide at the bottom. But I am guided as to size and depth entirely by circumstances, having, in some instances, sunk them to the depth of five or six feet, with economy and advantage.

I have also saved about one third of the labor usually required in filling my underdrains with stone, and returning the earth. The former, I have facilitated by the use of my premium farm truck, on which the stones are drawn to fill the drains. (See p. 308, vol. vi., *American Agriculturist*). This is done by commencing at the upper end of the drain, the operator standing in the drain, facing the work completed.

The truck is so low that the stones on it may be reached by the man who fills the drain. Thus, by means of this implement, the labor of one man, required by the old process, is dispensed with, and the work progresses more rapidly than before, from the fact, that by the practice of tipping the stone from the carts upon the ground, two men were required to perform the work. It frequently occurs, with the most skilful distribution of the stones that can be made, that some considerable portion of these require to be put into carts and moved again; but not so with the use of the truck; for only the quantity required is taken from it, the balance is drawn along to where they are wanted.

For the last eight years, I have placed the stone in the following manner, and have underdrained more or less every year, with good success. As before mentioned, I begin at the upper end of the drain to put in the stone, and commence, by placing those of medium size (say of the length of a man's hand, and approaching the egg shape as near as can conveniently be selected), entirely over the bottom, as close as they can be set without waste of time, setting them all upon the small end. By this means, the water is thrown into several meandering channels, and the force of it is broken, and its tendency to wash the sides and bottom of the drain is effectually prevented; but there will be more or less sediment accumulated in the drains, by the water washing in the loose earth upon the sides, and what little may adhere to the stones, which is conveyed to the lowest and nearest level portion of the drain, and deposited, until ultimately all the space between the stones is filled, and the efficacy of the work destroyed. I have discovered a plan which I have practiced for several years, with the fullest success, by which the accumulation of deposit is entirely prevented from obstructing the course of the water. This is done by digging small portions of the

drains, say eight or ten in length, at intervals of ten or fifteen rods, about one foot deeper than the general depth of the drain, and filling them to a level with the bottom, with small stones, over which the drain is filled as if they were not there. These serve as places of deposit below the bottom of the drain, and the pure filtered water runs off, leaving the deposit where it can do no harm.

After the entire bottom of the drain is paved with stones, of the size above named, the largest to be used are then to be thrown in promiscuously, taking great care not to cave in the side of the drain; then the next largest are used, and the work with the stones is completed by using the smallest that can be obtained, and levelling it off neatly; the whole depth of stone need not exceed 12 or 16 inches.

The stones are then to be covered with pine shavings, if they can be obtained, if not, with straw, brush, leaves, or turf, as is most convenient.

The earth having been all thrown on one side, is returned by the use of the side-hill plow, and should all be placed back over the stones again, so as to ensure the surface of the soil directly over the drain, being higher than the adjacent surface, to present a channel for surface water, being formed in the loose earth directly over the stones in the drain. Care should be taken not to have the direction of the drains such as to make too great a fall in them, for they may not be liable to wash in the bottom; besides, they are more effectual when they run diagonally with the hill side.

They should not be filled nearer the surface, than 14 or 16 inches, in order that they may admit of thorough subsoil plowing to that depth. No work on the farm has ever given me a better return than thorough draining. In many instances, I have reclaimed land that was hitherto worthless, and at an expense of \$12 or \$15 per acre, and have succeeded in enhancing the value to \$200 per acre, for farming purposes.

JOHN WILKINSON.

Agricultural Institute, Mount Airy, Sept. 1848.

LOOK TO YOUR TOOLS.—See that these are always in good order, and ready for use. Get good ones at first, and take care of them afterwards. A man may do twice as much with a good as with a bad tool. How few think of the loss from this cause. With a bad plow, a man loses by his team, his driver, his plowman, and his crop. A good harrow will do twice the work, and materially increase the crop over that of a bad one. With a poor wagon, or cart, or even a wheelbarrow, less labor can be done with the same force. Team is wasted as well as the time of the laborer, and nobody is the gainer. When not in use, always keep your tools dry, well painted, or oiled, and free from rust. This will add to their durability as well as value for immediate use.

GYPHUM AS A MANURE.—Gypsum, or plaster, ought to be used wherever it can be advantageously. It is not only one of the cheapest manures, but one of the most beneficial. It affords direct food to many plants; draws the nutritious gases from the atmosphere for the support of plants; and it concentrates the dews upon them, early in the afternoon, and late in the morning. When plaster is applied and suited to the soil and crop, you can discern its effects for several miles.

FACTS IN PRUNING.

The action of roots, and that of leaves are reciprocal. If you diminish the quantity of foliage, you will proportionably lessen the increase of roots. If 100 represent the quantity of roots made by a tree with all its foliage, then 50 will represent the quantity of roots formed by a tree similar to the other, in every respect, except in having the production of foliage repressed, by whatever means, to the extent of one half. You will therefore perceive that by summer pruning, both roots and tops are equally reduced, and that what may be termed the balance of power between these is still maintained. On the contrary, if you prune only in winter, the roots are in consequence but little affected, their increase for the season having been completed in the previous summer; and in the following season the whole amount of force exerted by the full complement of roots is brought to bear on a top limited by winter pruning, and this force is evinced by over luxuriance, which some remedy by root pruning.

With regard to young spray springing from the ends of previously-shortened shoots, it may be cut back to two eyes in all cases.—*Lindley.*

SAGACITY OF THE WILD GOOSE.

As you have taken considerable interest in developing the extraordinary sagacity of the brute creation, I am induced to relate a very singular circumstance, concerning the instinct of the wild geese, that migrate from the south to the north in the spring of the year.

A few years since, a neighbor of mine shot at a flock while passing to the south, wounded one in the wing, took him alive, and very soon domesticated him. He soon became very tame, and went with the other geese. I bought him, and kept him three years, and then mated him with an old native goose. (The wild goose does not lay till four years old). They had several broods of young ones, and the old goose became very feeble; so much so, that she could not sit long enough to hatch out her eggs, I accordingly put them under another goose, where they did very well. In the fall of the year, I gave her away, and mated the wild gander with another. In the spring following, about six months after, I heard that the old goose had got better, and was in good health. She was brought home and put into my poultry yard. The wild gander and his new mate were at a distance of about eighty rods, in another pasture, on a high hill. As soon as the old goose was put into the yard, she made a loud noise, which the wild gander heard. He immediately left his new mate, and came down to the yard, recognized his old mate, entered into close conversation, and appeared extremely happy in seeing her again. His other mate followed him, and wished to join the party, but he appeared much offended, treated her with the greatest indifference, and drove her from him. The old goose soon began to lay; and as soon as she set, I put under her, besides her own eggs, three laid by another goose. They all hatched out, and the goslings all looked precisely alike—no one could tell the difference; but as soon as the wild gander saw them, he appeared to take particular notice of three of them, and looked at

them for several minutes. He then began to peck and push them away. I thought nothing of this, and left them. In the course of the day, I looked at them again. He was then pecking, and trying to kill them. I took a stick, and struck him several times on his wings, and drove him away. The next morning, I went to see them, and found him still pecking them, and had almost killed them. I then whipped him more severely, when he soon left them, shaking his head several times, a signal the wild goose always gives previous to migrating. I then left them till the next morning, when I found he was gone, and could not be found.

About ten days after, I heard that a wild goose had been taken about two miles from my farm, while swimming down the bay. I sent a man after him, and it proved to be my gander. He was brought home, put with the old goose and goslings, but took no notice of them, and would not go near them, keeping at a distance of four or five rods from them; thus continuing for about three months. I then killed the three goslings, immediately after which he went to his old mate and goslings, appeared to converse with them for several minutes, made all up, and continued a faithful and affectionate husband and father, and remained with his mate till he was accidentally killed.

M. THAYER.

Braintree, Mass., Aug. 18th, 1848.

THE COW—HER DISEASES AND MANAGEMENT.—No. 6.

Inflammation of the Kidneys and Bladder.—This disease proceeds from various causes, such as strains, from riding other cows, from blows, or other external injury, from gravel, or anything which obstructs the proper functions of those parts.

Inflammation of the kidneys is indicated by a deficiency of urine, attended with a shivering, and a pain in the region of the kidneys, which the cow shows by turning her head to her side, as if looking at the part affected; and if she is made to walk, she moves with some degree of stiffness in the hinder parts, and at times utters a deep moan; the horns and legs are generally cold, the pulse low, and the animal feverish; the urine is discharged in small quantities, and of a high color. The violence of the disease may be judged of from the appearance of the urine. When it is of a coffee color, and of moderate consistence, the symptom is favorable; if voided in small quantities, and is black and fetid, it forebodes a fatal termination. The disease often ends in suppuration, when an ulcer of the kidneys takes place, though it is often cured. In the first stage of the disease, bleeding is necessary, as in every other inflammation. The bowels are then to be opened by a saline purge composed of the following ingredients:—

Epsom salts, $\frac{1}{2}$ lb.; saltpetre (nitre), $1\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; parsley seeds, $\frac{1}{2}$ oz.; powdered juniper berries, $\frac{1}{2}$ oz.; tincture of opium, $1\frac{1}{2}$ drachms.

To be given as soon as possible, in two quarts of smooth oat-meal or Indian-meal gruel, in which one ounce of common soap has previously been dissolved, with half a gill of double-distilled anise seed. This drink wonderfully assists nature, by unloading the intestinal canal. It also gradually relaxes the body, acts as a gentle diuretic, and allays

the impetuosity of the blood, by which means it gives ease to the obstructed parts, and by degrees eradicates the disease. This drink may be repeated in eight hours, should not the first dose succeed. The hard excrements are to be taken out of the rectum, by introducing a small-sized hand into the fundament, being first well-covered with lard, or sweet oil, and the nails of the fingers closely pared, to prevent injury to the parts during the operation, which is commonly called "raking." The cure after this is to be trusted to mild diuretics, among which the following is recommended:—

Saltpetre, in powder, $1\frac{1}{2}$ oz.; Castile soap, 9 drachms; camphor, in powder, $1\frac{1}{2}$ drachms; oil of juniper, 3 drachms.

The soap is to be cut into shavings, which are to be dissolved in two quarts of water gruel. The other ingredients may be added, and given to the cow, when milk warm. If she seems extremely restless, and full of pain, two drachms of liquid laudanum may be added to the dose above. This medicine is to be repeated once a day, or as often as the symptoms demand it, and continued till the disease is removed.

Besides this treatment, an emollient clyster may be given, composed of the following materials:—

Water gruel, 3 pints; sweet oil, $\frac{1}{2}$ pint; common soap, 1 oz.; tincture of opium, $\frac{1}{2}$ oz.

The soap is to be boiled in the gruel; then add the sweet oil and opium, and inject the whole, milk warm, into the rectum, by means of a clyster pipe and bladder. As soon as the clyster is given to the cow, a wisp of hay should immediately be applied under the tail, and the hand instantly put on its back part, so as to cause the tail and fundament to come in complete contact with the wisp, which should be held there for ten minutes, or a quarter of an hour, at least, in order to prevent the clyster from returning too soon, or before the medicine has had the desired effect. This emollient clyster has also its peculiar efficacy, by softening and relaxing those delicate parts, and assists in the operation of the laxative drink.

If the saline purge should not open the body sufficiently, it may be repeated. There may also be given to the cow, once or twice a day, a pint and a half of the following decoction, which must be boiled for half an hour, strained off:—

Juniper berries, bruised, 3 oz.; marsh mallow roots, dried, 3 oz.; camomile flowers, 3 oz.; linseed oil, 18 drachms; water, 3 quarts.

During the operation of these medicines, the cow should have plenty of diluent drinks, such as water gruel, &c., and mashes made of malt and bran, or Indian meal. In many cases, in spite of the most judicious treatment, the disease, instead of being checked, passes on, as already mentioned, to suppuration, when a different mode of treatment becomes necessary to be adopted, such as the use of diuretics of a more powerful detergent nature, which may be capable of healing the ulceration that ensues. When this takes place, the following symptoms will occur:—At the time the animal stales, her urine is voided with much pain; she groans at the time she is making it; and the urine is mixed with matter and blood. After each time of staling, she sets up her back and tail for a considerable period afterwards; the hair on her body stand on end, and

the skin soon becomes tight to her ribs, attended with loss of appetite and fever. When the disease has advanced to this stage, the following mixture is recommended as proper:—

Common turpentine, 4½ oz.; camphor, in powder, 3 drachms; gum myrrh, 1½ oz.; calomel, prepared, 30 grains.

The turpentine is first to be boiled over a slow fire, till it is of a sufficient hardness to form into balls; then take it off the fire, and let it stand till it becomes somewhat warmer than new milk; next add the other ingredients, which must be well stirred together, till the mixture gets cold; then divide it into four balls, one of which may be given every day, till the disease is removed. It will also be proper to give, once a day, a pint and a half of the before-mentioned decoction, to which add three fourths of an ounce of saltpetre. The bowels also are to be attended to; for if the animal becomes costive, one or other of the saline drinks must be given, in order to open them, and it may be repeated as often as it is found necessary.

The food should consist of diluent liquors, malt mash, &c., as before recommended.

ADULTERATION OF FOOD.—No. 4.

Coffee.—Singular as it may appear, this substance is subject to many adulterations; and unless the coffee be purchased entire, its purity can seldom be depended upon, and even then, it is sometimes questionable; for we are assured, on good authority, that there is a kind of bean grown in England, which so much resembles the coffee berry, that none but a practised eye can detect the difference; so that even in buying an unground article, the purchaser cannot consider himself safe. The substances usually employed in the adulteration of ground coffee are dried chiccory root, the grains of wheat, barley, and rye, ground and roasted peas and beans, coffee grounds that have been exhausted by use, and coffee damaged, or spoilt, by sea water.

By comparing the analysis of coffee with that of chiccory, it will be seen that a very great difference exists between the two substances. Coffee contains about 65 per cent. of matter soluble in water, whilst chiccory contains only about 28 per cent. Again, coffee yields but about 3 per cent. of ash, while chiccory yields nearly 13 per cent. Hence we have, at once, by this means, almost a positive method of detecting this species of adulteration. Furthermore, chiccory contains so much gummy matter, that if the fingers be moistened, and a little of the powdered article be taken, and well pressed together between them, it will adhere strongly, and form a mass of a very coherent nature, which can be moulded into any form. Pure coffee, when thus treated does not cohere in the slightest degree.

Chiccory, also, differs from coffee, when ground, in another particular, viz.: Pure coffee, if sprinkled on the surface of the water, will remain there for some time, and will not sink to the bottom; but chiccory will sink almost immediately, and tinge the liquid of a brownish yellow, the intensity of the color being in proportion to the quantity of chiccory employed.

The detection of roasted grain, peas, or beans, in coffee, may easily be determined by the action of a

watery solution of iodine on the starch contained in them, whilst it does not affect a solution either of coffee or chiccory. A decoction of the suspected coffee is first made in the usual manner, and strained when cold. Then a solution of iodine is added, and if peas, beans, or any farinaceous substance be present, the liquid will assume a blue, or greenish tinge—greenish, when the quantity is small, and blue, when large.

The detection of spent coffee grounds is comparatively simple, and depends on the same mode of operation as in the case of chiccory. It is evident that coffee, which has been exhausted by water, cannot furnish so much soluble matter, and will yield more insoluble matter than that in a normal state; so that the only thing to be done is, to exhaust a given portion of the suspected article with water, ascertain the amount of soluble and insoluble matter as before, and compare the results with that of genuine coffee.

Berries of coffee, that has been much damaged by sea water, are often torn and flattened out of shape; outside, they possess a brownish-black color—inside, a greenish tinge, with a musty smell, and rather a soapy taste. When roasted, in the ordinary manner, they give out no aromatic odor, like that produced by good coffee; nor do they become oily and shining by roasting, but remain dry and dull. When cold, their smell resembles that of the juice of liquorice. The unroasted berry imparts to boiling water a brownish tinge, and the decoction is very black and difficult to filter. At first, it has no bitter taste, nor sensible odor, but when left in the mouth, for a little time, it tastes like a weak solution of soap. On the contrary, good coffee gives a golden-yellow decoction, possessing a slightly bitter and herbaceous taste, and a faintly aromatic odor. At the expiration of about twelve hours, the decoction becomes green, and remains perfectly bright.

Coffee, impregnated with sea water, when roasted and infused in water, colors it a bright brown; and the liquid has neither the taste nor the perfume of coffee undamaged, and properly prepared. Its whole chemical constitution is changed, which renders it totally unfit for the purposes for which coffee is generally employed. In other words, it is unwholesome, and should not be used.

NUMBER OF BEES IN A SWARM.—A hive contains three different classes of bees—namely, the queen or female; the drones, or males; and the workers, or imperfectly-developed females; these three classes varying in number and size. The average number of bees in a hive, or swarm, is variously stated by different authors. Stawell, in his notes on Virgil, gives the general number at about 16,000; an anonymous author says from 15,000 to 20,000; the Edinburgh Journal states from 20,000 to 25,000, and assures us that before swarming there may be upwards of 40,000 in a populous hive; while a reviewer of Bevan's work on bees says, it is 52,000. One says that there are 15,000 workers; another says 19,499; a third says 20,000; and a fourth says 50,000; the number of drones, we are told by one writer to be 500; by another, from 600 to 2,000; and by a writer in the Entomological Magazine, at usually 2,000,

RICE HULLERS.

THESE machines are of recent invention, and will hull from one to ten bushels of rice per day, according to their size. They are found to be very convenient for domestic use where the planter, or farmer, raises his rice in a small way; but where

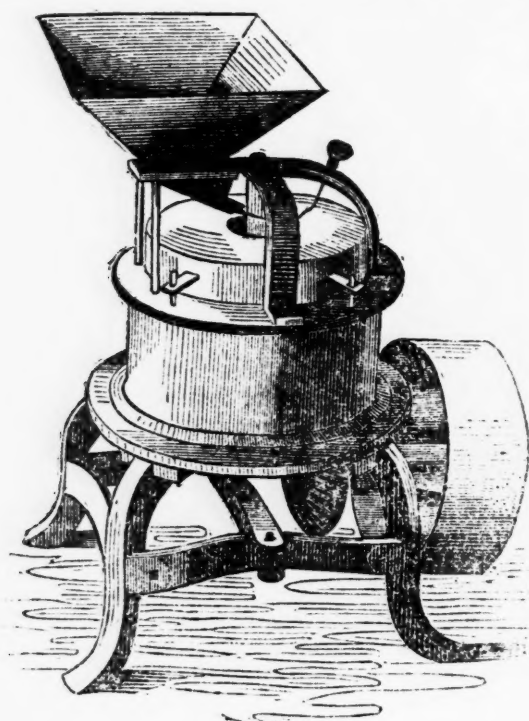


FIG. 83.

large crops are produced, a different machine is required.

NEW-JERSEY FARMING.

Few states comprise a greater variety of soil than New Jersey. There is the shifting sea sand, the tenacious clay, and the porous gravel, with all the intermediate mixtures of light, middling, and heavy loam. Then there is the rich, wide-spread salt marsh, the fertile fresh meadow, the rolling hill, and the rocky mountainous region. In climate, too, New Jersey greatly varies. At Cape May, which is nearly as far south as Washington, they grow the fig and sweet potato in great perfection, in the open air, while among the mountains of Essex, corn, except of the dwarf kinds, will hardly ripen.

With all this diversity of soil and climate, there is necessarily great diversity of practice in farming. Nothing would give us greater pleasure than to make an agricultural exploration of New Jersey, from one end to the other; but, confined as we are to business, our excursions in this state have not been so extensive nor so frequent as we could wish. We trust, therefore, that the farmers themselves will take this matter in hand, and remedy our deficiencies, by giving us full accounts of their soil, climate, crops, manures, stock, and general management. Fine writing is neither what we ask nor expect; but plain facts, such as all can easily understand and put in practice. Such things are always acceptable; and

that publication will ever be considered the most useful which most abounds in them.

The farmers throughout the country ought to write more for our journal than they do. We generally find them ready to talk, and that freely and intelligently; but when we ask them to write, they are very backward in fulfilling our wishes. We trust that hereafter they will become more free in their communications, and will shower down their favors upon us with a liberal hand.

SMALL POX IN SHEEP.

A CORRESPONDENT of Col. Hodges, British consul at Hamburg, thus describes the small pox in sheep, which is, at present, prevailing in various parts of Europe to an alarming extent:—

In this disease the sheep suffer previously internally, with loss of appetite, heaviness, and indisposition to move, difficulty of breathing, swelling of, and discharge from, the eyes, and of a viscous matter from the nose; in from three to five days, spots appear on the bare parts of the legs and body, which become large and form blisters, in the centre of the red circumference of which yellow spots come, and at last fill with yellow matter. If these spots become blue, or blackish, they unite, and a thin stinking matter issues from them, which is the height of the disease; but death ensues, if the pustules should not come properly out, or should strike in again. The last stage of the disease, when it terminates favorably, is marked by the drying away of the sores, on which a black scurf forms and falls off. The animal has the disease, as with man, only once; in a flock, it is contagious, but not so among cattle.

During this disease, good hay and drinks of a decoction of barley, are good, to which a little common salt may be added. At the commencement of the disease, the nose and mouth must be kept clean with vinegar and water; the eyelids are to be often washed with warm milk, and an electuary of three parts flower of brimstone, and one part common salt and honey, is a useful remedy. But I am decidedly of opinion that inoculation of the whole flock, the moment the disease shows itself, even in one in the neighborhood, is the only preservative.

STORING PUMPKINS AND SQUASHES.—Considering the expense and difficulty of keeping pumpkins and squashes, we generally found it more profitable to feed them out as fast as they ripened. For this purpose, we kept an extra number of animals through the months of September and October, and when the pumpkins, &c., were consumed, we either finished fattening them on grain, or disposed of them to the drover, or butcher.

Pumpkins require much room in storing, and, in spite of the best care, often decay rapidly; besides, as soon as the weather gets cold, they are of such a watery substance, that, if fed in any considerable quantity, they are liable to scour the stock and give them the cholera. It is the same if fed raw with the turnip, beet, and other roots. Our advice, therefore, is, if you have not the proper conveniences for cooking vegetables, get rid of them as fast as you can do so profitably, during the mild autumnal months.

Ladies' Department.

HARVEST HOME.

OLD LADY'S DIARY.—I have just received an invitation from our kind neighbor, farmer Jones, to take my whole family to his house to-morrow, and join in the pleasure of a real old-fashioned "harvest home," which I would accept with right good will, did I think it prudent to leave home to take care of itself; but as I do approve of making all happy who are capable of receiving pleasure in a reasonable way, and as youth is the season of enjoyment, I have given all the young folks a holiday, keeping my old faithful Peter to take care of the live stock, while I keep house in a quiet way.

The information that the invitation has been accepted has already spread far and wide, from the pantry to the kitchen, and from the kitchen to the milk house; and all are in joyous consultation as to what they can do, over night, to expedite the morning's work, and allow of an early start. Betsey takes the lead in all the preparations, and has promised to take the young people under her care. The large hay waggon, with the best horses, will carry them all without fatigue over our hilly road, so they will arrive fresh for a day of pleasurable toil. It is amazing to see with what spirit, work of all kinds is carried on to-day. The pantry is undergoing a thorough cleaning, and the bright tin pans glitter in the sun on the grass near the spring house, while the sound of the scrubbing brush on the churn, tells that in that department there will be nothing left to be done on the morrow; while the gleesome face, and the merry laugh that greets me at every turn, assures me that there is no stimulus to exertion and thrift like hope, and a prospect of innocent pleasure. Why will the old, who are no longer capable of enjoying youthful pleasures and sports, churlishly deny them to the young? Cares and trials that are inseparable from earth and its inhabitants, will soon enough blight their bright landscape, trials that we cannot ward off, and cares that like the canker worm eat into the very core of their hearts. Surely, then, it should be the study of the old, not unnecessarily to cloud the sunshine that never shines too brightly.

Harvest Home! What a long train of associations is connected with this word and festival. From the days of Boaz and Ruth, whose simple and touching history tells of the rich lord of the harvest, personally watching over his laborers, his heart cheered and thankful to the Great Giver of all good, for the bounteous supply, his body invigorated by healthful labors, the bright sunshine and the fresh breezes around him; yet forgetting not the poor and humble gleaner, who had all day followed at a distance, gaining a scanty subsistence by gathering the scattered ears that had fallen from his loaded sheaves. Boaz had then earned a joyous "harvest home," and we read that, "in the evening he ate and drank and his heart was merry," for God had blessed him.

Through the whole scripture history the bringing in of the harvest, and the threshing floors are described as scenes of peculiar festivity and religious thankfulness, and a portion was always set apart as a thank offering unto the Lord. The heathen nations, who had a long time before wandered off

from the people of God, still remembered their seasons of mirth and rejoicing, though they forgot the source from whence their wealth and blessings flowed. Traditions remained amongst them that there was a God and Creator, though they had forgotten Him, and gone far astray; so they made unto themselves gods and worshipped the creature instead of the Creator. Ceres and Bacchus, their gods of the grain and grape, were at the gathering in of the harvest, personified, and carried in procession, crowned with their appropriate emblems, wheat ears, and the vine. Priests and priestesses followed with music and dancing, accompanied by a multitude of drunken revellers, who made the welkin ring with their uproar and beastly mirth; nor did the revel cease until in the far-spent night, exhausted nature sunk under the unnatural excess. Then in this dread night of moral darkness, arose the star of the Lord of the harvest, and our Saviour again declared to whom the honor was due.

His followers have ever since had their appointed and appropriate seasons for prayer and thankfulness for the blessings of the harvest, while the old revels have still been handed down, modified by the purer religion and manners that Christianity has blessed us with.

In England, the harvesting of the grain appears to have been always celebrated with hearty good will and substantial feasting, while on the continent of Europe the gathering in of the grape is a universally joyous merry-making.

Bloomfield enters with true simple-heartedness into the inspiring scene, and gives in his own delightful manner, an animated description of the "Howkey Night." I think I see the dear good old Judie Twitchet, with spectacles on nose, and knitting in hand, surrounded by her rustic audience, telling of the happy days of her youth, and in particular of that merry Howkey night, when

"We did so laugh; the moon shone bright"

More fun you never knew;

'Twas farmer Cheerum's Howkey night,
And I and Grace, and Sue.

* * * * *

"The butcher whistled at the door,
And brought a load of meat—
Boys rubb'd their hands, and cried 'there's more,'
Dogs wagg'd their tails to see 't."

Then follows an animated and delightful description of the preparations for the feast, when farmer Cheerum and his train arrived from the field with the last load.

"Home came the jovial Howkey load,
Last of the whole year's crop—
And Grace amongst the green boughs rode,
Right plump upon the top.

"This way and that, the waggon reeled,
And never queen rode higher—
Her cheeks were colored in the field,
And ours before the fire."

The feast being over the fun began amongst the young folks, which lasted until the moon shone bright and clear, but low in the west.

"Then off we stroll'd this way and that,
With merry voices ringing—
And Echo answered us right pat,
As home we rambled singing."

I will read the whole of this delightful poem to my young people this evening, and when I record their description of to-morrow's merry-making, see how the English harvest home will compare with the American.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 6.

HAVING NOW completed our examination of the atmospheric constituents, boys, we will next give our attention to the *soil and its ingredients*. But as I shall have frequent occasion, in my subsequent letters, to mention those classes of compounds denominated *acids, alkalies, and salts*, and, as a knowledge of these substances is of so much consequence in all chemical investigations, I will first introduce them to your notice.

1. *Acids*.—Most acids may be recognized by the sourness of their taste, yet there are certain properties belonging to this class of substances which are possessed by bodies that have not a sour taste; the sourness always depending on the solubility of the acid. The property by which they are most usually distinguished, is that of changing the blue color of vegetables to red. It was formerly supposed that all acids contained oxygen, but more recent investigations have shown a number of exceptions, in most of which, hydrogen is found as a substitute. Some acids exist in a fluid state, as sulphuric acid; some in a solid state, as oxalic acid; and one, carbonic acid, exists in a gaseous state. Their most important property, however, and that which makes them peculiarly interesting to the chemist, is their uniting with certain substances, and forming another group of compounds called *salts*. Acids are divided into *organic* and *inorganic*, the former denoting vegetable and animal, the latter, mineral acids.

2. *Alkalies*.—This class of bodies is possessed of properties which seem directly the opposite of those belonging to acids. They have a pungent taste and change vegetable blue to green. One of the alkalies, ammonia, exists in a gaseous state, and is called *volatile alkali*. Potash and soda are the two most important, and have been called vegetable alkalies, in order to denote their origin, and to distinguish them from other alkaline substances. When an acid and an alkali are brought in contact, they immediately unite, and in combining, so completely lose their distinguishing features that no trace of their respective natures can afterwards be discovered. In some cases, where the acid and alkali are each highly corrosive and poisonous, they become so changed by combining as to form a perfectly mild and harmless substance, which will not change vegetable colors, and which has neither a sour nor a pungent taste. The substance thus formed, is called a *neutral salt*.

3. *Salts*.—These are very extensively diffused through nature, and their number of varieties seems almost infinite. They are formed by the union of an alkali with an acid, an earth, or a metallic oxide. The substance with which the acid combines to form the salt, is called the *base*, and the combination always takes place in certain definite proportions. Although the kinds of salts are so numerous, yet you need never be at a loss to know of what any one of them is composed; for chemists have adopted a system of naming them, by which the composition of any one of them may be known by hearing the name. You have only to bear in mind that the name of the acid is always made to

end in *ate*, while that of the base follows without alteration. Thus, a salt formed of sulphuric acid, united with lime, is called *sulphate of lime*; one composed of carbonic acid and potash, *carbonate of potash*, and one composed of acetic acid and lead, *acetate of lead*.

The termination *ite*, is sometimes used to denote that the acid contains less oxygen than when ending in *ate*, and in this case the acid ends in *ous*, instead of *ic*. Thus, phosphoric acid and potash combined, would be called *phosphate* of potash, but phosphorous acid, which contains less oxygen, combined with potash, would form *phosphite* of potash.

Formation of Soils.—You have been so accustomed to consider the ground, when the farmer turns his furrow and deposits his seed, as having always existed in its present state, and to look upon rocks and stones as things of eternal duration, that you will be surprised when informed that most of the matter of which our mellow earth is composed, once had the form and appearance of solid rock, and that the hardest stones are continually wasting away, and adding their particles to those already existing in the soil. Such a process is constantly going on in nature. The division of these solid substances, called their *degradation*, is effected mainly by the action of heat, moisture, and frost. You are familiar with the expansion of ice, and have undoubtedly seen earthen or glass vessels, cracked and broken, by having the water in them solidified. It is precisely similar with respect to rocks; their crevices and pores are filled with water, which, by repeatedly freezing and thawing, gradually widens the interstices, and finally forces asunder the portions between which it had entered. Huge masses thus gradually crumble away, until they become changed into a soil suitable for the plow.

Other agencies are also at work in effecting the degradation of these solid masses. A chemical action is going on, by means of which certain elements, composing the solid structure of rocks and stones, are separated from their original connexions, and made to combine with other elements existing in the air and water with which they come in contact.

The science which treats of these peculiar operations in nature, is called *Geology*; but it would occupy too much of our time to examine this subject in detail. I would therefore advise you to seek further instruction from some of the excellent elementary works that have been written on this interesting science.

J. M'KINSTRY.

Greenport, Columbia Co., N. Y.

FACTS IN HILL-SIDE FARMING USEFUL TO BE KNOWN.—1. No more houses can be built on a hill side than on a plain, the horizontal bases of each being equal. 2. It requires no more posts, stakes, nor pickets, to fence a hill than would be necessary to fence a plain. 3. No more wheat, or any other upright plants, will grow on the hill side than on a plain, unless there be a greater surface of air available as a source of food in the case of the hill side, and there is an advantage in that. 4. On a hill side, a greater crop of trailing or procumbent plants, may be produced than on a plain.

FOREIGN AGRICULTURAL NEWS.

By the steamer *Europa* we are in receipt of our foreign journals to Sept. 2d.

MARKETS.—*Cotton*, a trifling advance. *Grain and Provisions*, a slight decline. In other things we find nothing worthy of notice.

The Weather was rather favorable for the harvest, and the farmers were busily gathering their grain crops. The rot in the potato seemed to be somewhat abated, under the genial influences of more sunny weather.

Death of Berzelius.—A letter from Stockholm announces the death, on the 7th inst., of the illustrious chemist, Berzelius, aged 69 years.

Small Pox in Sheep.—We regret to state a very heavy loss sustained by Mrs. Heard, of Seckford Hall, near Woodbridge. Mrs. H. purchased, a week or two since, twelve score of fat sheep and lambs, all of which, with the exception of a half dozen, have perished. So fatal and instantaneous is the disease that forty died in one day.—*Ipswich (Eng.) Journal*.

Importation of French Bread Stuffs into England.—The steamship *James Watt*, from Havre, lately carried into England 200 sacks of flour, and 26 of maize, or Indian corn.

The Beech Tree Struck by Lightning.—Early in October, 1845, during a severe thunder storm, in Northumberland, the lightning descended the trunk of a beech tree, and plowed up the soil to a distance of twenty yards from the base of the tree. The beech tree, therefore, has no more claim than other trees to be considered a non-conductor of electricity.—*English Paper*.

Rice as Food for Poultry.—Rice is good food either for fattening or for growing fowls. It should be boiled, not too much; if in skimmed milk or broth, all the better. It should, however, be mixed with chopped mutton suet, pollard, and barley meal. Given uncooked, it might prove injurious, if they would eat it, from swelling in the craw. I have heard that a rice diet has a tendency to cause blindness in fowls, but have no experience of the fact, whatever may be the result in India.—*Gardener's Chronicle*.

The Dorset Breed of Sheep.—As an instance of the prolific nature of this breed of sheep, I may mention that we have an aged ewe, that, in 1847, dropped twin lambs, which she reared; they are both expected to drop lambs in the course of next month. On the 2d January this year, the same ewe lambed, on 4th May, the lamb was taken from her, and on the 4th inst. she gave birth to another very fine lamb, that is, six months precisely between the lambs; this is surely a very remarkable case. If this prolific quality could be generally relied upon, what a profitable breed for rearing lambs for the market! These are the only Dorsets we have, the rest of the flock being Downs, the ram also of the same breed, and allowed to run with the flock for the sake of having lambs at various seasons for table.—*Agricultural Gazette*.

Mutton Legs.—Among the articles of food brought from the United States of America are legs of mutton, in casks, in a salted or slightly-preserved state, to be manufactured into mutton hams. A vessel, just arrived from New York, has brought twelve barrels of these mutton legs, or hams, in the state mentioned. If only salted, they are free of duty, but, if they have undergone the process of drying or smoking, so as to bring them within the meaning of the term hams, as commonly understood, they become liable to the duty on that article. The same remark applies to the pork legs brought in considerable quantities from the United States of America.—*English Paper*.

A Vegetable Monster.—The "Aurora de Matanzas" states that an immense yam, one yard and six inches in length, and weighing 17 $\frac{1}{2}$ lbs., has lately been raised by D. C. Martinez, in Jabaco, island of Cuba.

English Fashions for August, 1848.—An umbrella, top coat, and thick boots, when out of doors; a cozy little fire at home, and an extra blanket at night.

Mode of Applying Farm Yard Dung.—The best mode of applying farm-yard dung, consists in mixing and blending the soil and the dung, in the utmost possible manner of intimate comminution. It is in direct opposition to the present most approved mode of the putrefaction of the substances, the generation of heat, and the evolution of the gaseous fluids; but it rests on the undeniable specimens of nature's chemistry which every where abound. And though a chemical combination may ever exceed our powers, yet we do not know how near to it a mechanical mixture may approach; and if it be absurd to expect perfection in any attempt, there can neither be absurdity nor foolishness in making the nearest possible approaches to it.—*Farmer's Herald*.

Diseased Cattle.—Numbers of cattle are dying in Norfolk, England, from disease of the lungs; but the epidemic, which effected their feet and mouths for the last two or three seasons, is stated to be nearly extinct.

Statistics of the Potato and Grain Crops in Ireland.—Under the administration of Lord Clarendon, in Ireland, a system has been established for ascertaining with great accuracy, the number of acres planted of all cereal products, and from recent returns to Parliament the following table is compiled:—

	Planted in 1847.		Planted in 1848.
	Acres.		Acres.
Wheat,	743,871	.....	735,000
Oats,	2,200,870	.....	2,187,000
Barley,	332,655	.....	355,537
Rye,	12,415	.....	13,238
Beans,	23,768	.....	25,224
Potatoes,	284,116	.....	1,054,000

From these returns it appears that if but one third of the whole potato crop should be saved in Ireland there need be no fear of famine prices. Though there has been this vast increase in the breadth of land planted with the potato, yet in no particular description of grain does there appear to be any material reduction, and the aggregate amount of acres including all descriptions of grain, show a greater breadth of land sown in 1848 than in 1847 by 2426 acres.

Packing Grapes.—Formerly, grapes were packed closely in bran, &c.; but by this mode they were rendered unfit for exhibition. They are now sent hundreds of miles without any packing amongst the berries. They should be laid on the thickness of four sheets of cotton wadding, and tied down by the shoulders by means of soft, thick, cotton threads, or tape, previously made fast to the bottom of the box. Let the layer of grapes be composed of bunches placed closely together, and as nearly of equal thickness as possible. Put no paper over them. Let thin boards be fitted to rest securely over the grapes, and as closely as may be without touching them. Pad the upper side of these boards with cotton, on which secure another layer of grapes; and thus proceed till the box is filled. After reaching their destination, the grapes should be suspended in a dry, airy place.—*Agricultural Gazette*.

Canarian Emigration.—There recently arrived at Puerto Principe, in the island of Cuba, by the Spanish frigate, *Maria Julia*, 383 colonists, of both sexes, from the island of Teneriffe, with the view of engaging in agriculture.

Food for Children.—The finest children I have seen in the United States, were fed mostly upon bread, milk, eggs, and poultry; if parents would feed their children in this way, giving them little or no other animal food, they would not be so liable to disease, nor would contagious disorders be so fatal as they are now, owing to the excessive use of animal food, and particularly pork.—*English Paper*.

Editor's Table.

SOCIAL MEETING OF FARMERS AND GARDENERS.—A meeting will be held at our rooms, 189 Water st., N. Y., on the first Monday of each month, from 12 till 2 o'clock, P. M., for the benefit of *Farmers, Gardeners, and others*, disposed to come, for the purpose of having a social, informal chat, on subjects appertaining to Agriculture and Horticulture.

These meetings are entirely free from charge of any kind whatever, to those who may please to attend them. They are subject to no formal speaking, but every person present is left to pass his time in the manner most agreeable to him, either in listening to what may be going on, or in conversing with any one present.

A regular report of the proceedings will be published, once a month, in the *American Agriculturist* and other journals.

We cordially invite our friends to attend, without ceremony, and exhibit whatever they may have particularly curious, rare, or useful, in the way of plants, flowers, fruits, seeds, vegetables, farm or garden implements, fertilizers, &c. &c. If not convenient to attend the meetings, as specified above, we should be pleased to receive whatever they may wish to have exhibited at any other time, with an account of the same in writing or otherwise, in order to embody it in the report.

FIFTH ANNUAL EXHIBITION OF THE ESSEX COUNTY INSTITUTE, NEW JERSEY.—This was held at the Court House, in Newark, on the 20th ult., and was highly creditable to the members and the public, from the large number of choice specimens of fruits and vegetables offered. The ladies' department of fancy work was full and meritorious; but less so on the part of the mechanics and manufacturers, although there were several beautiful specimens of their work. But Newark is capable of exhibiting as large a variety of highly-finished, manufactured articles as any place of similar size in the country.

The show of dairy products was inconsiderable, and that of animals limited, but among them, we noticed some in each department of peculiar excellence.

THE AMERICAN ARCHITECT.—The September number of this work presents a specimen of a regular log cabin—no novelty, it is true, among us—but even log cabins ought to be built by rule, and for twenty-five cents any one can have designs in perspective and detail. The price of the "Architect" is \$3 per annum. C. M. Saxton, publisher, 205 Broadway.

AMERICAN COTTAGE LIBRARY; or Useful Facts, Figures, and Hints for Everybody, Containing a General View of the World, Statistics of the United States, &c. &c. Burgess, Stringer, & Co., 222 Broadway, pp. 190. Price 25 cents. This is a very useful book as a reference, and as such we recommend it to our readers.

COTTAGES AND COTTAGE LIFE; Containing plans for Country Houses, Adapted to the Means and Wants of the People of the United States, with Directions for Building and Improving; for the Laying out and Embellishing of Grounds; with Some Sketches of Life in this Country. By C. W. Elliott. Cincinnati: H. W. Derby & Co., publishers. New York, A. S. Barnes & Co., pp. 226. In this work, the author has given sixteen fine lithographs of cottages, in various styles of architecture, plans for gardens, and laying out grounds, with architectural embellishments for the same. The designs, in general, are pretty and convenient, and do credit to his taste as an artist. These are accompanied with letter-press descriptions, and the whole is interwoven with a tale, or more properly a series of sketches of life in the country, told partly in

prose and partly in poetry. This work is handsomely got up, and does much credit to the publishers; indeed, it is the finest specimen of typography we have yet seen emanating from the west. Mr. Elliott is a pleasing and instructive writer, and we hail his beautiful volume as another evidence of growing taste and refinement amongst us.

GREAT CORN FIELD, AND GREAT COUNTRY.—A traveller writes to the Toledo Blade, from the Wabash Valley: "I viewed the 1,000 acre field of corn (on Wea Prairie), of the Hon. H. L. Ellsworth, late Commissioner of Patents, where this year 60,000 bushels will probably be raised without hoeing, simply plowing the corn two or three times. I may say, too, that I saw 5,000 acres, all adjoining."

Corn is raised by contract, for 4 to 6 cents per bushel, taken in the field. Hogs are raised on clover, oats, and corn, and it is not unfrequent to find farms with 1,500 of these grunners. On the Grand Prairie, no less than 10,000 cattle, from one to four years old, were feeding in different herds, for the eastern market—one herdsman taking care of two to four hundred, for a compensation of ten cents per head, per month.

MULTICOLE RYE.—G. T. Hopkins, Esq., editor of the Vermont State Agriculturist, in giving the result of an experiment made by him with multicolle rye, says that "it stools out more profusely than any other grain we have ever met with. From 10 to 20 stalks grew from every seed that vegetated, and one root, in particular, numbered 31 stalks, each with a good head on it, the aggregate length of which was 14 feet 3 inches, and the number of grains 2,128. The heads of the entire crop averaged about 6 inches in length."

SCIENCE OF COOKING.—Liebig's "Chemistry of Food" details a method for cooking meat, founded on scientific principles. It is recommended to introduce the joint into water in a state of quick ebullition, allow it to remain in this state for a few minutes, and then so much cold water is to be added as to reduce the temperature down to about 160°, in which state it is to be kept for some hours. By the application of boiling water at the first, the albumen is coagulated, so as to prevent the water from penetrating into the interior of the joint, and extracting the soluble juices.

CHICKEN WITH A HUMAN FACE.—We have heard, says the New Orleans Delta, a good deal of talk during the last few days about a chicken with a human face, at the house of Madame Martin, in Cole street, near St. Philip. We paid no attention to the droll stories which we heard, but at length we were so pressed that we determined to see for ourselves. At the place mentioned, we saw a chicken, having, instead of a beak, a nose and mouth exactly conformable to those of a human face; the nostrils, the separating cartilage, the lips, tongue, chin, are all there. It was indeed a most singular *lusus nature*.

A PREVENTIVE OF THE HESSIAN FLY.—Jonah Oglesby, a respectable farmer of Dauphin county, publishes a statement in the Pennsylvania Cultivator, by which it appears, that to burn the stubble of the previous crop is a certain preventive against the fly. He has practised this for nine years, without a failure in a single instance.

ECONOMY IN RAISING POULTRY.—Cobbet, in his "Cottage Economy," says that six fowls, with proper care, might be made to clear, every week, the price of one gallon of flour.

PRAIRIE STEAM CAR.—The experiments with the prairie steam car, invented by Gen. Semple, of Illinois, appears to have succeeded. The Springfield Register, of the 28th, says it has run ten miles an hour over the prairie, with fifty passengers. A daily train between Springfield and Alton is contemplated.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, SEPTEMBER 23, 1848.

ASHES, Pots,.....per 100 lbs.	\$6 00	to	\$6 12
Pearls,.....do.	6 25	"	6 31
BALE ROPE,.....lb.	6	"	8
BARK, Quercitron,.....ton,	30 00	"	31 00
BEANS, White,.....bush.	75	"	1 25
BEESWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12½
BONES, ground,.....bush.	45	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	11	"	13
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	4 50	"	5 50
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	5	"	9
COTTON BAGGING, Amer. hemp,....yard,	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	5 00	"	5 87
Fancy,.....do.	6 00	"	6 50
Richmond City Mills,.....do.	7 00	"	7 25
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 87	"	4 00
GRAIN—Wheat, Western,.....bush.	1 10	"	1 31
Red and Mixed,.....do.	1 00	"	1 20
Rye,.....do.	70	"	71
Corn, Northern,.....do.	65	"	72
Southern,.....do.	60	"	65
Barley,.....do.	73	"	75
Oats,.....do.	27	"	35
GUANO, Peruvian, none in market. 2,000 lbs.	50 00	"	50 00
" Patagonian,.....do.	35 00	"	40 00
HAY, in bales,.....do.	45	"	50
HEMP, Russia, clean,.....ton.	200 00	"	210 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	6	"	7
HOPS,.....lb.	4	"	12
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 25	"	4 37
Pipes for Pumps, &c.....lb.	5	"	6
MEAL, Corn,.....bbl.	3 12	"	3 25
Corn,.....hhd.	12 50	"	13 00
MOLASSES, New Orleans,.....gal.	23	"	26
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 00	"	2 25
Pitch,.....do.	75	"	1 00
Rosin,.....do.	90	"	1 00
Turpentine,.....do.	3 00	"	3 25
Spirits Turpentine, Southern,....gal.	45	"	47
OIL, Linseed, American,.....do.	60	"	61
Castor,.....do.	1 50	"	1 70
Lard,.....do.	70	"	75
OIL CAKE,.....100 lbs.	1 00	"	1 15
PEAS, Field,.....bush.	1 00	"	1 02
Black eyed, 2 do.....do.	1 25	"	1 37
PLASTER OF PARIS,....ton.	2 25	"	3 00
Ground, in bbls.,....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	13 50
Prime,.....do.	5 25	"	7 50
Smoked.....lb.	6	"	12
Rounds, in pickle,....do.	4	"	6
Pork, Mess,.....bbl.	9 75	"	13 00
Prime,.....do.	7 00	"	10 00
Lard,.....lb.	8	"	9½
Bacon sides, Smoked,....do.	3	"	4½
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	5
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	3 00	"	4 00
SALT,.....sack,	1 25	"	1 45
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	5	"	7
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 35	"	1 40
rough,.....do.	1 25	"	1 30
SODA, Ash, cont'g 80 per cent. soda,....do.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton,	35 00	"	37 00
TALLOW,.....lb.	7	"	8½
TOBACCO,.....do.	2½	"	7
WHISKEY, American,.....gal.	25	"	27
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	35
Half blood,.....do.	20	"	25
Common do.....do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 14 cents per lb.; Veal, 6 to 10 cents; Lamb, 6 to 8 cents; Mutton, 6 to 9 cents; Pork and Sausages, 8 to 10 cents; Ham and Bacon, 8 to 12 cents; Beeve's Tongues, 50 to 62 cents each; young Pigs, \$1 to \$1.75 each.

Fish, &c.—Salmon, from 18 to 25 cents per lb.; Sea Bass, Striped Bass, and Halibut, 8 to 10 cents; King Fish, 10 to 12 cents; Cod Fish, 4 to 6 cents; Weak Fish and Blue Fish, 6 to 8 cents; Black Fish, 8 to 10 cents; Fresh Mackerel, 12 to 18 cents; Mullet, 12 to 15 cents; Flounders and Poggies, 4 to 6 cents; Eels, 8 to 10 cents; Pike, 10 to 12 cents; Yellow Perch, 8 to 10 cents; Green Turtle, 10 to 16 cents; Lobsters, 4 to 6 cents; Crabs (soft-shelled), 75 cents to \$1 per dozen; Crabs (hard-shelled), 50 to 75 cents; Oysters, 75 cents to \$1.50 per 100; Clams, 25 to 75 cents per 100.

Poultry, Eggs, and Game.—Young Turkeys, from 62 to 87 cents each; Old Turkeys, 87 cents to \$1.50; Geese, 75 cents to \$1; Ducks, 62 cents to \$1 per pair; Wild Ducks, 50 to 75 cents; Teal, \$1; Chickens, 37 to 87 cents; Pigeons, \$1 to \$1.50 per doz; Woodcocks, \$1.50 to \$2; Snipes, 25 cents to \$1.25; Yellow Legs, 50 cents; Plover, \$2; Rice Birds and Rail Birds, 62 cents; Rabbits, 12 cents each; Grey Squirrels, 10 cents each; Eggs, 9 to 12 for 12 cents.

Dairy Products.—Butter, from 18 to 31 cents per lb.; Cheese, 6 to 10 cents; Cheese Cakes, 8 for 12½ cents; Milk, 3 to 6 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Summer Pippins, \$1.37 per bbl.; Pound Sweetings, \$1.75; Newtown Pippins, Fall Pippins, Spitzenbergs, Vandervere, and R. I. Greenings, \$1.25; Crab Apples, 37 to 50 cents per half peck; Pears 50 to 75 cents per basket; Vergouleuse, \$3 per bushel; Pears in small quantities, 12 to 50 cents per half peck; Plums, \$1.50 to \$1.75 cents per basket; Damsons, \$2 per basket; Plums in small quantities, 18 to 50 cents per half peck; Peaches (Morris whites), \$2 to \$2.50 per basket; White Heath, 75 cents to \$1; Common Peaches, 30 to 50 cents; Peaches in small quantities, 12 to 50 cents per half peck; Cranberries, \$2 to \$2.50 per bushel, or 25 cents per half peck; Quinces, \$1 to \$3 per 100; Grapes (Isabella and Catawba), 10 to 15 cents per lb.; Oranges, 25 to 75 cents per dozen; Lemons, 18 to 25 cents; Bananas, 37 to 75 cents; Chestnuts, \$2.50 per bushel; Hickory Nuts, \$2; Peanuts, \$1.25 to \$1.38; Cocoa Nuts, 3 to 6 cents each; Pecan Nuts, 7 cents per lb.; Soft-Shelled Almonds, 12 to 14 cents; Filberts, Hard-Shelled Almonds, and Madeira Nuts, 8 cents.

Vegetables.—Mercer and Carter Potatoes from 62 to 75 cents per bushel; Pink Eyes, 50 to 62 cents; Potatoes in small quantities, 12 cents per half peck; Sweet Potatoes, 50 to 75 cents per basket, or 12 to 15 cents per half peck; Onions (common red), 50 to 62 cents per bushel, or 5 cents per rope; Onions (silver-skinned), 62 to 75 cents per bushel; Onions in small quantities, 12 to 18 cents per half peck; Leeks, 10 to 12 cents per dozen; Cucumbers, 75 cents per 100, or 1 cent each; Cucumbers for pickling, 25 to 37 cents per 100; Tomatoes, 37 to 50 cents per basket; Tomatoes in small quantities, 8 to 10 cents per half peck; Green Peppers, (large), \$1 to \$2 per 100; Pumpkins, 50 to 75 cents per dozen; White Squashes, 75 cents to \$1; Striped Squashes, 50 cents to \$1; Watermelons, 12 cents to \$1 each; Muskmelons (nutmeg), 50 cents to \$1 per bushel; Muskmelons in small quantities, 1 to 6 cents each; Egg Plants, 4 to 12 cents each; Okra, 25 cents per 100; Green Corn, 62 to 75 cents per 100 ears, or 10 ears for 12 cents; String Beans, 12 cents per half peck; Lima Beans (shelled), 12 cents per quart; Turnips, 50 cents per bushel, or 7 for 4 cents; Kohl Rabi, 2 cents each; Beets and Carrots, 37 to 50 cents per bushel, or 31 cents per dozen; Cabbages, 2 to 8 cents per head; Cauliflowers, 12 cents per head; Lettuces, 2 to 3 cents; Radishes, 12 to 15 cents per dozen bunches.

REMARKS.—Ashes, Hay, Naval Stores, and Provisions, a slight advance since our last. Other things about the same.

The Weather, till recently, has been excessively dry for nearly six weeks. The late corn crops are consequently very much injured, and the fall pastures nearly cut off. The copious rains the past week will remedy the latter, but the former has got past redemption. At the south, there has been too much rain for cotton, and considerable losses from this and the worm. Rice, Corn, and Tobacco have generally done well. It is too early yet to speak of the sugar crop. The potato rot has nearly ceased.

TO CORRESPONDENTS.—Communications have been received from R. C. Whiting, W. D., Samuel Allen, E. S., Calvin Coulter, Jr., B. L. A., and Reviewer.

Will C. C. Jr. favor us with his real name and place of residence?

ACKNOWLEDGMENTS.—Lime and Marl—Their Uses, with Explanations of their Properties, Management, &c. by James Hyatt, Chemist of the Mount-Airy Agricultural Institute, Germantown, Pa.; Hints to Emigrants, or to those who may contemplate emigrating to the United States of America, by Rev. D. R. Thomson, Secretary of the Philadelphia Emigrants' Friend Society; List of Premiums to be awarded by the Monroe County Agricultural Society at their Show and Fair, to be held at Rochester, N. Y., on the 4th and 5th of the present month; Annual Catalogue of Fruit, Forest, and Ornamental Trees and Shrubs, cultivated and for sale by Thomas Hancock, proprietor of the Ashton Nurseries, near Burlington, New Jersey

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We will open an exclusive Agricultural Agency Warehouse in Mobile, suited to the southern planter. Inventors and patentees are invited to a correspondence (post paid), relating to plows, harrows, rollers, cultivators, horse-powers, grain and rice threshers, hulling machines, fanning mills, cotton gins, and all other articles useful to planters and agriculturists.

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References.

Hon. John Gayle, Member of Congress, Mobile.
Messrs. Stewart and Easton, Esqrs. - do.
J. G. Lyon, Marshall U. States, - do.
Messrs. L. Merchant & Co. - do.
Collin H. Minge, Esq. - do.
David Stodder, Esq. - do.
J. C. Hodges, Esq. - do.
A. B. Allen, Editor "American Agriculturist," N. York.
Wm. H. Starr, Editor "Farmer and Mechanic," do.
Mobile, Alabama, Sept. 1848.

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Analytical Laboratory, Yale College, New Haven, July, 1848.

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" $\frac{1}{2}$ "	" 3 " 8 "	" 10 do 8 "
" 1 "	" 5 " 10 "	" 14 do "
" $1\frac{1}{4}$ "	" 6 " 12 "	" 17 do 8 "
" $1\frac{1}{2}$ "	" 11 " "	" 19 do "
" 2 "	" 16 " 12 "	" 27 do "
" $2\frac{1}{2}$ "	" 23 " 8 "	" 50 do "
" 3 "	" 25 " "	" 59 do "
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FARMERS' CABINET

IS PUBLISHED THE FIRST OF EVERY MONTH

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3ts A. L. BINGHAM.
 Cornwall, Vt., July 31st, 1848.

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